

Table 1. Responses to Comments from U.S. Environmental Protection Agency (EPA) on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

Comment #	Page #	Section	Comment	Response
Comments provided by EPA Project Manager (Craig Cooper), dated November 18, 2011				
1	--	General	EPA appreciates the use of terms “Tier 1” and “Tier 2” soil areas. In the future (i.e. in the Final FS, Proposed Plan and ROD for Parcel E), the Navy should use a clear, ready reference guide with the definitions and location maps for these areas.	The Navy agrees that it will need to clearly define and identify the Tier 1 and Tier 2 hot spots in the Proposed Plan and ROD ¹ . The Navy believes that the existing description within the Draft Final FS Report (in the Executive Summary and Section 4.2) is adequate to convey the definition and location of these areas.
2	--	General	In the Parcel E Final FS and Proposed Plan, the Navy should clearly explain why the “full excavation” alternative is not possible due to the ubiquitous nature of historic fill soils and other factors.	Section 3.3.2.1.5 of the Draft Final FS Report describes the basis for focusing the excavation options at Parcel E based on criteria identified in the NCP (55 Federal Register 8849, March 8, 1990) and EPA RI/FS guidance (EPA, 1988). Specifically, the excavation options for Parcel E were evaluated based on effectiveness, implementability, and cost. Excavation options retained following this evaluation were incorporated into the remedial alternative analysis. The text in Section 3.3.2.1.5, which was expanded based on EPA comments received on the Draft FS Report, will be retained in the Final FS Report. The Proposed Plan and ROD will discuss how the remedial alternative analysis satisfies the NCP criteria, including effectiveness, implementability, and cost.
3	--	General	The railroad right-of-way (now known as Parcel UC-3) does not appear to be analyzed separately in the Parcel E FS. In the Proposed Plan for Parcel UC-3, how will the Navy identify how the preferred alternative for Parcel UC-3 is supported by a feasibility study in accordance with the CERCLA and NCP?	First, the Navy wishes to clarify that the railroad right-of-way (which is referred to as IR-52) is separate from the proposed extent of Parcel UC-3 (which extends along Crisp Avenue from Griffith Street to Spear Avenue). Second, the railroad right-of-way was evaluated in the Parcel E FS to identify and evaluate remedial alternatives that are necessary to prevent unacceptable exposure to chemicals in soil. Third, both the railroad right-of-way and the proposed extent of Parcel UC-3 are still considered part of Parcel E because the parcel boundary changes will not be formally implemented until the ROD stage. A similar approach was implemented for HPS Parcels C and D, which contained Parcels UC-2 and UC-1, respectively, prior to the ROD. The Proposed Plan for Parcel E will identify the Navy’s intent to create a separate utility corridor parcel (UC-3) that will receive a separate ROD.

¹ [Acronyms and abbreviations](#) are defined at the end of this appendix (following Table 6).

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Comments provided by EPA Project Manager (Craig Cooper), dated November 18, 2011 <i>(continued)</i>				
4	--	General	<p>EPA understands that the Navy's Draft Final Parcel E FS identifies the following recommended alternatives:</p> <ul style="list-style-type: none"> • NAPL: N4A and N4B • Soil: S4 • Groundwater: GW-3, GW-4A, and GW-4B <p>Therefore, specific recommendations concerning the preferred alternatives for NAPL and Groundwater are not identified. In the final FS, the Navy must identify the specific recommended alternatives for Soil, NAPL and Groundwater. EPA understands that the results for the treatability study for IR-03 will influence the Navy's process for making specific recommendations on NAPL and Groundwater.</p>	The Navy acknowledges that the cited alternatives received the highest overall rankings based on the Navy's comparative evaluation. Prior to preparing the Proposed Plan, the Navy will meet with EPA, DTSC, and the Water Board to discuss which specific groundwater and NAPL alternatives should be identified as the preferred alternatives. However, the Navy does not believe that it is appropriate to recommend groundwater and NAPL alternatives in the Final FS Report.
5	--	Figures 2-5 and 2-6	It appears some of the groundwater plumes are not sufficiently bounded by monitoring wells. Does the Navy consider this a data gap for the remedial design process?	The Navy will verify the adequacy of the monitoring well network in the RD; however, the Navy believes that the current well monitoring network is adequate to evaluate remedial alternatives. As shown on Figures 4-10 through 4-20, the Navy plans to install additional wells to monitor the performance of the groundwater and NAPL alternatives. In addition, at some locations, the Navy is taking early action to better delineate certain plumes. For example, as part of a recent treatability study, the Navy has improved the delineation of VOC plumes located within the planned multi-use district because these areas pose a potential risk to humans and may require in-situ treatment (which will necessitate more precise delineation in the RD).
6	--	Table 4-7	EPA appreciates the Navy's use this table listing actions to be addressed during the remedial design. In the Parcel E Final FS, Proposed Plan and ROD, these actions should continue to be refined and carried forwarded as appropriate.	The Navy will continue to refine the list of actions for the RD, and will incorporate elements of this table, as appropriate, into the Proposed Plan and ROD.

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Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011**

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Comments provided by EPA Project Manager (Craig Cooper), dated November 18, 2011 <i>(continued)</i>				
7	--	--	How does the Navy intend to address the comments on the Draft Final Parcel E FS from ARC-Ecology dated November 18, 2011?	See the responses to Arc Ecology's comments, provided in Table 5 of this appendix.
8	--	--	With respect the Draft Radiological Addendum to the FS for Parcel E, EPA has had concerns with Navy's responses to EPA comments 1, 7, 16, and 33. However, EPA will review the Navy's Draft Final Radiological Addendum for the Parcel E FS that just arrived today (November 18, 2011).	Comment acknowledged. The Navy will respond to EPA comments on the Draft Final Radiological Addendum for Parcel E.

Table 2. Responses to Comments from California Department of Toxic Substances Control (DTSC), Department of Fish and Game (DFG), and Department of Public Health (CDPH) on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

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Comments provided by DTSC Project Manager (Ryan Miya), dated August 23, 2011				
1	--	Section 2.2.4 and Figure 2-2	Navy's response to DTSC comment #4, Section 2.2.4 – Topography and Surface Water Drainage. Thank you for adding the feature to Figure 2-2 and referencing in Section 2.2.4. In addition, please briefly explain why there appears to be two locations that are identified for Outfall 33.	Outfall 33 consists of a single location at the termination of the existing storm line. Figure 2-2 was revised to remove the incorrect second location and to show the single location of Outfall 33 (at the termination of the existing storm line).
2	--	Section 4.2.2.5 and Figure 4-1	Navy's response to DTSC comment #13, Section 4.2.2.5 and Figure 4-1. Thank you for correcting the shared boundary text. However, the locations of Berth 29 and former tank S-505 do not appear to have been noted in Figure 4-1 as the response states. In addition, please clarify that IR-03 is also the location of the former oil reclamation ponds for clarification and consistency between the text and figure.	Figure 4-1 was revised to identify Berth 29 and former tank S-505. Figure 4-1 was also revised to note that IR-03 ² is the former oil reclamation ponds.
Comments provided by DTSC Geological Services Unit (GSU) Engineering Geologist (Gerard Aarons), dated August 17, 2011				
3	--	General	The GSU has reviewed Table 2. Responses to Comments from Department of Toxic Substances Control (DTSC) Draft Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2009. The Navy has adequately responded to my comments and recommendations or given adequate reasons why changes to the document were not warranted. I recommend approving the Draft Final Feasibility Study Report for Parcel E Hunters Point Shipyard San Francisco, California, dated July 2011.	Comment acknowledged.

² [Acronyms and abbreviations](#) are defined at the end of this appendix (following Table 6).

Table 2. Responses to Comments from California Department of Toxic Substances Control (DTSC), Department of Fish and Game (DFG), and Department of Public Health (CDPH) on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

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Comments provided by DFG Office of Spill Prevention and Response (OSPR) Staff Toxicologist (Charlie Huang) and Environmental Scientist (Tami Nakahara), dated August 22, 2011				
4	--	General	For the administrative record purposes, this is the first time that DFG-OSPR is commenting on the FS report for Parcel E. The Navy did not send the Draft version of the subject document to DFG-OSPR for regulatory review. The Draft FS was published in July, 2009, but DFG-OSPR was not aware of this document until we were carbon copied on the Department of Toxic Substances Control's (DTSC's) comments. Subsequently, the Navy mailed the Draft version in September, 2009. DTSC's Project Manager recommended that DFG-OSPR provide comments on the Draft Final FS. This comment serves to remind the Navy of DFG-OSPR's continued interest in natural resource issues (i.e. contaminants and biological impacts) related to the project.	At the time the Draft FS Report was published (in July 2009), the Navy was not aware of the DFG-OSPR's expectation to review all CERCLA documents for Parcel E. The Navy has since recognized that expectation and ensured that DFG-OSPR receives all future CERCLA documents for Parcel E.
5	--	General	DFG-OSPR is in general concurrence with the comments provided by Dr. Ryan Miya of DTSC on September 30, 2009. DFG-OSPR has additional comments on the above document beyond those expressed by DTSC.	Comment acknowledged.
6	--	General	Figures 4-2 to 4-9. DFG-OSPR checked the Figure 6-1 of Final Revised Remedial Investigation (RI) Report for Parcel E (Barajas & Associates, 2008), as part of this review. The proposed excavations (Figures 4-2 to 4-9) encompass the sampling locations of other constituents which DFG-OSPR considers elevated and of potential ecological concern in Parcel E. This comment is intended for the DTSC Project Manager.	Comment acknowledged.

Table 2. Responses to Comments from California Department of Toxic Substances Control (DTSC), Department of Fish and Game (DFG), and Department of Public Health (CDPH) on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

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Comments provided by DFG OSPR Staff Toxicologist (Charlie Huang) and Environmental Scientist (Tami Nakahara), dated August 22, 2011 (continued)				
7	ES-3	Executive Summary	<p>Page ES-3, Section Parcel E History and Environmental Setting.</p> <p>a. The Navy states, “<i>The following special-status bird species were observed at HPS during previous surveys: peregrine falcon (Falco peregrinus), a state endangered species; double-crested cormorant (Phalacrocorax auritus), a state species of special concern; and loggerhead shrike (Lanius ludovicianus), a state species of special concern.</i>” The Peregrine Falcon has been Federally and State delisted, but is still a State fully protected species. Other than collection for scientific research purposes for the recovery of the species, Fully Protected Species may not be "taken" or possessed at any time and DFG is not authorized to issue a permit for their "take", including trapping. Please correct the status of this species in the text.</p> <p>b. There are other special-status birds that may be present at Parcel E. These species include Federally- and State-endangered, and State fully protected California Clapper Rail and California Least Tern; State- threatened and State fully protected California Black Rail; State fully protected Brown Pelican, Golden Eagle, Southern Bald Eagle, and White-tailed Kite; Federally-threatened and State species of special concern Western Snowy Plover; State species of special concern Northern Harrier and Alameda Song Sparrow; and State watch list species Osprey. In addition, according to the 2011 Final RI/FS for Parcel E-2 (page 2-20), Burrowing Owl, a State species of special concern, has been observed at HPS. HPS is also along the Pacific Flyway, which is a stop-over for wintering and migrating birds protected by the Federal Migratory Bird Treaty Act and various Fish and Game Codes. Therefore, please include a discussion in the text of these other special-status bird species that may be present at Parcel E.</p>	<p>a. The executive summary and Sections 2.2.5 and 3.2.2 were revised to correct the status of the peregrine falcon as a protected species. Please refer to Attachment 1 to these responses to comments for the Navy’s evaluation of the additional potential ARARs identified by DFG-OSPR, including California Fish and Game Code § 3511, which pertains to fully protected bird species (such as the peregrine falcon).</p> <p>b. The Navy presented the previous ecological assessments, including an assessment of special-status species potentially present at Parcel E, in the Revised RI Report for Parcel E (Barajas and Associates, 2008). The Revised RI Report was reviewed and approved by EPA, DTSC, and the Water Board in accordance with the Federal Facility Agreement. Considering the previously approved work, the Navy does not believe that sufficient technical basis exists to support DFG-OSPR’s request to revise the subject text. Although the Navy is not subject to CEQA, CEQA is not considered to be a CERCLA ARAR, and the Navy is in no way relying upon CEQA determinations in its decisions, the Navy also notes that their previous CERCLA findings are consistent with an independent study performed in support of the SFRA’s recent EIR for the Phase II development of HPS (SFRA, 2010a).</p>

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7 (cont.)	ES-3	Executive Summary	c. The Navy states, “No special-status plants, mammals, reptiles, amphibians, or invertebrates are expected to be present within the terrestrial habitat at Parcel E.” This statement is incorrect. Various special-status species have the potential to be present within or adjacent to the habitats at Parcel E (i.e., beach areas, intertidal wetland areas, upland areas). These species include special-status plants such as Federally-endangered and State rare California seablite (<i>Suaeda californica</i>); State rare bristly sedge (<i>Carex comosa</i>), Diablo helianthella (<i>Helianthella castanea</i>), seaside tarplant (<i>Hemizonia congesta</i> ssp. <i>congesta</i>), and rose leptosiphon (<i>Leptosiphon rosaceus</i>). Special-status mammals and reptiles include Federally- and State-endangered and State fully protected salt marsh harvest mouse (SMHM) and San Francisco garter snake; and State species of special concern salt marsh wandering shrew. The 2008 Final Revised RI Report for Parcel E states signs of western harvest mouse have been observed at Parcel E (page 3-21). Western harvest mouse and SMHM look similar and are difficult to distinguish even when in hand. Page 2-12 of this FS also states harbor seals and sea lions have been observed in areas adjacent to Parcel E. These species are protected by the Federal Marine Mammal Protection Act and have the potential to utilize the beach areas at Parcel E. In addition, there is the potential for special-status fish to be present in and adjacent to intertidal wetland areas at Parcel E, such as Federally- and State-threatened Central Valley spring run chinook salmon, Federally- and State-endangered Sacramento River winter run chinook salmon, and Federally-threatened central California coast steelhead and Central Valley steelhead. Therefore, please correct the text to state, “ <i>Special-status plants, mammals, reptiles, amphibians, fish, or invertebrates may be present within the terrestrial, beach, and intertidal wetland habitats at Parcel E.</i> ”	c. The subject statement is consistent with previous ecological assessments performed by the Navy, as presented in the Revised RI Report (Barajas and Associates, 2008). In addition, DFG-OSPR’s assertion regarding the potential presence of the salt marsh harvest mouse is inconsistent with text on page 3-22 of the Revised RI Report that states “ <i>Based on information gathered during the Parcel E Validation Study, it does not appear that the salt marsh harvest mouse occurs at Parcel E at HPS.</i> ” The Revised RI Report was reviewed and approved by EPA, DTSC, and the Water Board in accordance with the Federal Facility Agreement. Considering the previously approved work, the Navy does not believe that sufficient technical basis exists to support DFG-OSPR’s request to revise the subject text. Although the Navy is not subject to CEQA, CEQA is not considered to be a CERCLA ARAR, and the Navy is in no way relying upon CEQA determinations in its decisions, the Navy also notes that their previous findings are consistent with an independent study performed in support of the SFRA’s recent EIR for the Phase II development of HPS (SFRA, 2010a).

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8	ES-12 to ES-15	Executive Summary	<p>Pages ES-12 to ES-15, Section Development of Remedial Alternatives. Special-status species and habitats at Parcel E have the potential to be impacted by contaminants of ecological concern on site as well as by remedial activities (i.e., surveying and sampling activities; pre- implementation bench-scale and pilot-scale studies on remedial technologies; vegetation removal; excavation; grading; installation of covers, slurry or sheet-pile walls, and shoreline protection; etc.). These impacts include but are not limited to temporary or permanent loss of habitat from remedial activities (including loss of wetlands), disturbance to nesting birds, take of species, or other impacts. Therefore, the Navy will need to conduct biological surveys for these sites, before remedial activities begin, and according to appropriate survey guidelines (i.e., nesting surveys, Burrowing Owl protocol surveys [California Burrowing Owl Consortium, 1993; DFG, 1995], rare plant protocol surveys [DFG, 2009]). In addition, the Navy will need to consult with the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and DFG-OSPR on appropriate avoidance, minimization, and mitigation measures to implement for potentially impacted Federal and State special-status species and habitats. The Navy will also need to consult with the regulatory agencies that have jurisdiction over wetlands (i.e., U.S. Army Corps of Engineers, Regional Water Quality Control Board) regarding appropriate mitigation for impacts to wetlands at Parcel E. The cost of these surveys, protective measures, and mitigation should be included in the cost estimates for the remedial alternatives.</p>	<p>Please refer to the response to comment 7 above regarding adequacy of previous site-specific ecological assessments to identify the plant and animal species potentially present at Parcel E.</p> <p>The proposed remedial alternatives would comply with the substantive provisions of pertinent ARARs, including those location-specific ARARs regarding the protection of biological resources (summarized in Section 3.2.2 and detailed in Appendix B of the FS Report).</p> <p>Starting in 2006, the Navy has collaborated with the BCT, CCSF, and other project stakeholders to develop a mitigation approach for wetlands that would be eliminated by cleanup actions at Parcels B, E, and E-2. The Navy prepared draft and draft final versions of a WMMP for HPS that were reviewed by the BCT, CCSF, and other project stakeholders, including DFG-OSPR (TtECI, 2006; Shaw, 2009a). The Navy responded to all comments received on the draft and draft final versions of the WMMP and incorporated input from various reviewers, as appropriate, into the final version of the WMMP that was published in December 2009 (Shaw, 2009b). As described in Section 3.2.3.1 of the FS Report: “<i>The Navy will mitigate the loss of the wetlands at Parcel E using on-site compensatory mitigation to be implemented in conjunction with the remedy for Parcel E-2 (Shaw, 2009). The final details of the plan for wetland mitigation will be included in the remedial design for Parcel E-2.</i>” Cost estimates for wetlands mitigation and monitoring were provided in the RI/FS Report for Parcel E-2.</p> <p>In addition, the Navy wishes to clarify that the administrative/procedural requirements for preparing biological assessment and biological opinion documents (which would evaluate avoidance, minimization, and mitigation measures) are not ARARs for the on-site CERCLA response action being evaluated in the FS Report.</p>

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9	2-11	Section 2.2.5	<p>Page 2-11, Section 2.2.5 Ecology. The Navy states, "The Navy conducted a thorough biological assessment of the potential occurrence of species protected under the Endangered Species Act at Parcel E (Tetra Tech FW, Inc. 2004)." This biological assessment (BA) was conducted over seven years ago. In general, DFG considers BAs or biological surveys valid for a couple of years. In addition, the 2004 BA only analyzed the potential effects of the proposed site characterization and removal activities associated with radiological contamination and potential polychlorinated biphenyls (PCBs) in four areas at Parcel E: metal debris reef, metal slag area, IR Site 02 Northwest and Central, and PCB hot spots. The 2004 BA did not analyze the potential effects of the remedial activities at the IR sites being considered in the current Parcel E Draft Final FS. Therefore an updated BA will need to be conducted for the new remedial activities that will be implemented at Parcel E and submitted to USFWS, NMFS, and DFG-OSPR for review. The Navy will need to obtain a Biological Opinion from USFWS and/or NMFS for potential impacts to Federally- listed species and approval from DFG-OSPR for proposed avoidance, minimization and mitigation measures for State-listed species.</p>	<p>As described in the response to comment 7 above, the Navy presented the previous ecological assessments, including an assessment of special-status species potentially present at Parcel E, in the Revised RI Report for Parcel E (Barajas and Associates, 2008). These previous assessments included the existing ruderal and intertidal habitat at Parcel E (see Figure 3-3 from the Revised RI Report). The Revised RI Report was reviewed and approved by EPA, DTSC, and the Water Board in accordance with the Federal Facility Agreement. Considering the previously approved work, the Navy does not believe that sufficient technical basis exists to support DFG-OSPR's request to perform a supplemental ecological or biological assessment. Although the Navy is not subject to CEQA, CEQA is not considered to be a CERCLA ARAR, and the Navy is in no way relying upon CEQA determinations in its decisions, the Navy also notes that their previous findings are consistent with an independent study performed in support of the SFRA's EIR (SFRA, 2010a).</p> <p>In addition, the administrative/procedural requirements for preparing biological assessment and biological opinion documents are not ARARs for the on-site CERCLA response action being evaluated in the FS Report. The Navy believes that the information contained in the Revised RI Report is adequate to support the findings provided in the FS Report.</p>

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10	2-41 to 2-42	Section 2.5.2.1	<p>Pages 2-41 to 2-42, Section 2.5.2.1 Baseline Environmental Risk Assessment (BERA) for Soil.</p> <p>a. The Navy states, <i>"In summary, no significant unacceptable risk to ecological receptors was indicated at Parcel E. The maximum HQs [Hazard Quotients] based on PSCs derived using the low TRV were 2.16 (for kestrels exposed to PCBs in soil) and 2.67 (for the house mouse exposed to lead in soil)."</i></p> <p>1. In 2007, DFG-OSPR concurred with DTSC-Human and Ecological Risk Division (HERD) on the Draft Final RI that based on the level of ecological hazard to terrestrial receptors, remedial actions based only on ecological hazard concern is not warranted for Parcel E. We also agree with DTSC-HERD's comment that "future changes in use, such as the proposed establishment of a nearby wetland would require re-evaluation of the terrestrial ecological hazard [emphasis added]." (p. L-52, Specific Comment 38 of DTSC, Barajas & Associates, 2008).</p> <p>2. According to the Final Parcel E RI (Barajas & Associates, 2008), the adjacent nearby Parcel E-2 was a landfill. However, in 2009, the Navy proposed to use Parcel E-2 for construction of tidal and freshwater seasonal wetland to mitigate impacts and wetland losses elsewhere at HPS (Shaw, 2009). This is a significant departure from the condition presented in 2007, and therefore, in accordance with our conditional concurrence comment, DFG-OSPR requires that the terrestrial ecological hazard be re-evaluated in the FS for Parcel E.</p>	<p>As described in the response to comment 8, the Navy has collaborated with the BCT, CCSF, and other project stakeholders to develop a mitigation approach for wetlands that would be eliminated by cleanup actions at Parcels B, E, and E-2. Beginning in 2006, the Navy has been consistent in presenting its plans to restore wetlands at Parcel E-2, as documented in the draft and draft final versions of a WMMP (TtECI, 2006; Shaw, 2009a) and the draft and draft final versions of the RI/FS Report for Parcel E-2 (ERRG and Shaw 2007 and 2009). Therefore, the Navy does not agree with DFG-OSPR's assertion that the Navy's current plans are significantly different than those presented prior to 2009. Further, the Navy does not believe that sufficient technical basis exists to support DFG-OSPR's request for an updated ecological risk assessment at Parcel E.</p>

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10 (cont.)	2-41 to 2-42	Section 2.5.2.1	<p>b. The Navy states, “<i>Because the house mouse does not warrant protection as a species, and no other small mammals have been observed during trapping at the site, this level of risk is acceptable. The low HQ for the kestrel does not indicate population-level risk of a magnitude that warrants remediation.</i>”</p> <ol style="list-style-type: none"> 1. DFG-OSPR does not concur with the above statement from the Navy. Exceedance of low toxicity reference value (TRV) below a high-TRV indicates exceedance of threshold above which adverse effects may occur; therefore, it warrants further investigation. DFG-OSPR infers from the document that the Navy does not intend to perform a remedial action if the ecological hazard does not exceed the high TRV (assuming human health contaminant is not a driver). We disagree with the Navy's approach. The emphasis should be placed on risk management decision-making when ecological risks are greater than no effect, but less than a deleterious effect level (i.e., the range of hazard presented between the No Observed Adverse Effects Level [NOAEL]) and Lowest Observed Adverse Effects Level [LOAEL]). 2. Thus, DFG-OSPR recommends estimating the extent of potential remediation and associated costs presented by a NOAEL-based cleanup level compared to LOAEL-based cleanup level. The LOAEL-based cleanup level should be based on a critical effect level (e.g., for a reproductive, physiologic, developmental, or growth endpoint), not a midrange adverse effect level represented by the high-TRV. 	<p>The subject statement is consistent with the conclusion from Section 5.2.9 of the Final Revised RI Report for Parcel E (Barajas and Associates, 2008). The Navy believes that the Final Revised RI Report for Parcel E properly evaluated potential ecological risk and wishes to clarify that the associated risk management decision made in the Revised RI Report (that risk to wildlife is not significant and does not warrant response action based only on ecological concerns) was reviewed and concurred upon by EPA, DTSC, and the Water Board in accordance with the Federal Facility Agreement. However, the Navy wishes to clarify that, because chemicals in soil present a potential unacceptable risk to human health, remedial action is proposed throughout the future open space areas at Parcel E. The proposed remedial alternatives in these areas, which are detailed in Section 4 of the FS Report, will protect humans from potential unacceptable exposures. The Navy does not believe that sufficient technical basis exists to support DFG-OSPR's request for an updated ecological risk assessment at Parcel E, or a reevaluation of associated risk management decisions based on different ecological criteria (NOAEL or LOAEL).</p>

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10 (cont.)	2-41 to 2-42	Section 2.5.2.1	<p>3. Please note that in the Final Parcel E ERA, the Navy has indicated that the house mouse represents the omnivorous mammalian guild (p. J-8, Tetra Tech, 2008), so for the Navy to say that “<i>the house mouse does not warrant protection as a species</i>” is to say that the entire omnivorous mammalian guild (e.g., deer mouse, ornate shrew) does not warrant protection. This would be in direct contradiction of the ecological assessment endpoint chosen during the problem formulation stage. Thus, please remove the above statement in Section 2.5.2.1.</p> <p>4. The Navy notes that “<i>no other small mammals have been observed during trapping at the site.</i>” Given that part of the site reuse is designated as an open space and that the nearby adjacent Parcel E-2 is becoming a tidal and freshwater seasonal wetland, DFG- OSPR requires that the original list of surrogate species include other terrestrial receptors that represent the insect-eating birds and mammals, the herbivorous birds and mammals, and the omnivorous birds and mammals (e.g., the Marsh Wren, the ornate shrew, the California vole, the salt marsh wandering shrew [SMWS], and the Western Meadowlark).</p> <p>5. In light of the changes in the ecological condition of the site and the nearby site Parcel E-2, the Navy must re-evaluate the ERA to include the additional trophic receptors.</p>	(see above)

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10 <i>(cont.)</i>	2-41 to 2-42	Section 2.5.2.1	6. To illustrate the importance of the re-evaluation, DFG-OSPR used the Navy calculated Exposure Point Concentration for lead of 525.63 mg/kg and analyzed the contaminant hazard to the SMWS, the western harvest mouse (WHM), the Loggerhead Shrike, and the Western Meadowlark by using the same site-specific uptake factors that the Navy used for Parcel E (TiEMI and LFR, 2000). For mammals, the SMWS has a low-TRV-based hazard quotient of 14.2; the WHM a low-TRV-based hazard quotient of 6.5. For birds, both the Loggerhead Shrike and the Western Meadowlark not only exceeded the low-TRV but both birds exceed the high-TRV for lead (the Loggerhead Shrike has high-TRV HQ of 2.0 and the Western Meadowlark has high-TRV HQ of 1.8 after incorporating site-use). Because lead has exceeded the LOAEL and mid-level effect benchmark, lead poses an unacceptable level of hazard to these receptors, and thus the remedial action must address the hazard of lead to those species. DFG-OSPR requires that the Navy re-evaluate the ecological risk of all contaminants to all additional ecological receptors listed above.	Please refer to the previous portions of this response regarding the Navy's position that insufficient technical basis exists to support DFG-OSPR's request for an updated ecological risk assessment at Parcel E.
11	3-4	Section 3.1.1.2	Page 3-4, Section 3.1.1.2 Soil Remedial Action Objectives (RAOs) for the Protection of the Environment. The Navy states, <i>"The BERA concluded that risk to wildlife is not considered significant and does not warrant response actions based only on ecological concerns; therefore, no ecological RAO for soil is proposed. However, ecological benchmarks (Table 3-1) will be considered during any response action undertaken to address risk Identified in the HHRA."</i> The soil RAOs have not been demonstrated to be protective of ecological receptors. The Navy must include relevant trophic guild receptors because of the proposed establishment of nearby wetlands. Please see Specific Comment 4.	Please refer to the response to comment 10 regarding the Navy's position that insufficient technical basis exists to support DFG-OSPR's request for an updated ecological risk assessment at Parcel E, or a reevaluation of associated risk management decisions based on different ecological criteria (NOAEL or LOAEL). Accordingly, the soil RAOs are adequate to address the potentially unacceptable risks at Parcel E, and the proposed remedial alternatives in these areas, which are detailed in Section 4 of the FS Report, will protect humans from potential unacceptable exposures.

Table 2. Responses to Comments from California Department of Toxic Substances Control (DTSC), Department of Fish and Game (DFG), and Department of Public Health (CDPH) on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

Comment #	Page #	Section	Comment	Response
Comments provided by DFG OSPR Staff Toxicologist (Charlie Huang) and Environmental Scientist (Tami Nakahara), dated August 22, 2011 <i>(continued)</i>				
12	3-16; B-45 to B-54	Section 3.2.2; Section B3	<p>Page 3-16, Section 3.2.2 Potential Location-Specific Applicable or Relevant and Appropriate Requirements (ARARs); pages B-45 to B-54, Section B3. Location-Specific ARARs.</p> <p>a. The Navy has identified the substantive portions of California Fish and Game Code (F&GC) Sections 2080 and 2081 as ARARs regarding the protection of the American Peregrine Falcon as a State endangered species. The American Peregrine Falcon has been delisted by the State. However, there are other State threatened and endangered species that may be present at Parcel E such as the California Clapper Rail, California Least Tern, California Black Rail, SMHM, San Francisco garter snake, Central Valley spring run chinook salmon, and Sacramento River winter run chinook salmon. Therefore, the substantive portions of F&GC Sections 2080 and 2081 are still considered ARARs for Parcel E.</p> <p>b. The only DFG ARARs the Navy has identified for Parcel E are F&GC Sections 2080 and 2081. Other DFG ARARs that should be included as ARARs for Parcel E and listed in the text of this FS are F&GC Sections 5650, 3005, 1908, 3503, 3511, 4700, and 5050, and Title 14 California Code of Regulations Section 460 (please see attached table). Since the Navy has accepted the Federal Migratory Bird Treaty Act as an ARAR, DFG-OSPR will not include submission of F&GC Sections 3503.5 and 3513 as ARARs for Parcel E.</p>	<p>As discussed in the response to comment 7, the executive summary and Sections 2.2.5 and 3.2.2 were revised to correct the status of the peregrine falcon. The Navy believes that the information presented in the Revised RI Report for Parcel E (Barajas and Associates, 2008) is adequate to demonstrate that none of the cited endangered species are present at Parcel E. Therefore, California Fish and Game Code § 2080 and § 2081 are no longer ARARs for the proposed remedial alternatives at Parcel E.</p> <p>The draft and draft final versions of the FS Report evaluated potential ARARs identified by DFG-OSPR in correspondence to DTSC (DTSC, 2009). Specifically, Table B-4 provided adequate information to demonstrate why California Fish and Game Code § 3005 and § 1908 are not ARARs for the proposed remedial alternatives at Parcel E. Please refer to Attachment 1 to these responses to comments for the Navy's evaluation of the additional potential ARARs identified by DFG-OSPR. Appendix B in the Final FS Report was updated to incorporate this additional information.</p>

Table 2. Responses to Comments from California Department of Toxic Substances Control (DTSC), Department of Fish and Game (DFG), and Department of Public Health (CDPH) on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

Comment #	Page #	Section	Comment	Response
Comments provided by DFG OSPR Staff Toxicologist (Charlie Huang) and Environmental Scientist (Tami Nakahara), dated August 22, 2011 (continued)				
12 (cont.)	3-16	Section 3.2.2	c. The Navy states F&GC Section 3005 is not an ARAR. However, DFG- OSPR and the Navy have not come to an agreement whether this statute is an ARAR. Please include the following agree to disagree language from the letter dated December 3, 2009 from DFG-OSPR counsel to Navy counsel (Johnson, 2009): <i>“The DON [Department of the Navy] has determined that F&GC Section 3005(a) is not a state ARAR because it is not applicable or relevant and appropriate. DFG-OSPR asserts that F&GC section 3005(a) is a state ARAR because it is relevant and appropriate. Whereas, the DON and DFG-OSPR have not agreed upon whether F&GC section 3005(a) is an ARAR, this Feasibility Study documents each party's position on the statute but does not attempt to resolve the issue.”</i>	The Navy acknowledges the cited “agree-to-disagree” language but does not agree with the applicability of such language to Parcel E. The Navy’s position is that the “agree-to-disagree” language is only to be used on sites where the Navy and the State of California (including DFG-OSPR) are able to reach agreement regarding ecological cleanup levels. Based on the comments provided by DFG-OSPR on the Draft Final FS Report, it does not appear that such an agreement exists. Accordingly, the “agree-to-disagree” language was not incorporated into the Final FS Report. If agreement on ecological cleanup levels is reached by the time the ROD is issued, the “agree-to-disagree” language may be included consistent with the Navy counsel’s April 29, 2010, letter to CDFG counsel (Navy, 2010).
13	3-27 to 3-55; 4-1 to 4-44	Section 3.3; Section 4	Pages 3-27 to 3-55, Section 3.3 Analysis of General Response Actions and Process Options; pages 4-1 to 4-44, Section 4 Development and Description of Remedial Alternatives; Appendix D Evaluation of Shoreline Protection Options. a. Remedial activities being considered at Parcel E may result in temporary and permanent impacts to wetlands. Impacts to wetlands are regulated by various Federal and State agencies. DFG follows the USFWS wetland definition which utilizes hydric soils, wetland hydrology, and hydrophytic vegetation criteria and requires the presence of at least one of these criteria (rather than all three) in order to classify an area as a wetland. Based on this definition, DFG-OSPR considers beach/intertidal areas to be wetlands in addition to the coastal salt marsh and emergent wetland present at Parcel E.	The wetlands delineation at Parcel E (along with sites at Parcels B and E-2) was documented in the “Final Parcel E Nonstandard Data Gaps Investigation, Wetlands Delineation and Functions and Values Assessment, Parcels B and E” (TtEMI, 2003), which was presented as Appendix D of the Final RI/FS Report for Parcel E-2 (ERRG and Shaw, 2011). Section 2 of that document states that USACE guidance (USACE, 1987) was used to perform the field investigation; however, Section 3 of that document states: <i>“The extent of the wetlands delineation at HPS covered all potential areas even when only one of the wetlands parameters was observed...No areas at HPS were excluded from potential wetland area delineation because they only possessed one or two wetlands parameters.”</i> As a result, the existing wetlands delineation adequately identifies that wetlands acreage subject to mitigation, reflective of the more conservative USFWS criteria.

Table 2. Responses to Comments from California Department of Toxic Substances Control (DTSC), Department of Fish and Game (DFG), and Department of Public Health (CDPH) on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

Comment #	Page #	Section	Comment	Response
Comments provided by DFG OSPR Staff Toxicologist (Charlie Huang) and Environmental Scientist (Tami Nakahara), dated August 22, 2011 <i>(continued)</i>				
13 <i>(cont.)</i>	3-27 to 3-55; 4-1 to 4-44	Section 3.3; Section 4	<p>Remedial activities being considered at Parcel E such as the installation of covers, shoreline protection, slurry or sheet-pile walls, groundwater flow diversion structures, or extraction wells; implementation of thermally enhanced liquid-phase extraction and thermally enhanced dual-phase extraction; excavation; and backfill may cause temporary or permanent impacts to wetlands. These impacts may include loss of habitat, alteration of hydrology, loss of wetland function, and impacts to sensitive species. Therefore, the Navy will need to consult with the regulatory agencies on avoidance, minimization, and mitigation measures for impacts to wetlands (including restoration or creation of wetlands, monitoring, and maintenance). Costs for these activities should be factored into the cost estimates for the remedial alternatives.</p> <p>b. Covers, shoreline protection, and backfilled excavations will need to be installed and graded to match existing wetland elevations in order to maintain wetland hydrology. This requirement will need to be included in the remedial design and work plan (WP) documents.</p> <p>c. Shoreline protection technologies such as armoring (i.e., riprap, large armor units, gabions, articulating concrete mats, or engineered concrete structures) may alter wetland hydrology and destroy wetland habitat. Please explain how the Navy will avoid, minimize, and mitigate these types of impacts to the wetlands if these remedial alternatives are implemented.</p> <p>d. Any wetland vegetation removed as part of a remedial activity will need to be restored. Please include wetland restoration as part of the remedial alternatives being considered in wetland areas. Details of the wetland restoration plan such as a list of plant species, restoration methodology, success criteria, monitoring, and maintenance will need to be included in the remedial design and WP documents.</p>	<p>Please refer to the response to comment 8 regarding the Navy's planning efforts for wetlands mitigation at HPS.</p> <p>Please refer to the response to comment 8 regarding the Navy's planning efforts for wetlands mitigation at HPS.</p> <p>Sections 3.3.2.1.7 and 4.2.2.3 briefly describes the shoreline protection options for Parcel E and reference a more detailed evaluation provided in Appendix D. Appendix D evaluates the pertinent regulatory requirements associated with protecting the Parcel E shoreline as part of the remedial action and adequately describes the necessary measures to avoid, minimize, and mitigate impacts to wetlands.</p> <p>Please refer to the response to comment 8 regarding the Navy's planning efforts for wetlands mitigation at HPS.</p>

Table 2. Responses to Comments from California Department of Toxic Substances Control (DTSC), Department of Fish and Game (DFG), and Department of Public Health (CDPH) on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

Comment #	Page #	Section	Comment	Response
Comments provided by DFG OSPR Staff Toxicologist (Charlie Huang) and Environmental Scientist (Tami Nakahara), dated August 22, 2011 (continued)				
14	3-39 to 3-40	Section 3.3.2.1.7	<p>Pages 3-39 to 3-40, Section 3.3.2.1.7 Containment, Subsection Covers.</p> <p>a. 2nd bulleted item. The Navy states, “<i>Other examples of covers could include ...a minimum 2 feet of clean imported soil.</i>” Please clarify whether soil covers will be used only in upland areas or in intertidal areas as well. Burrowing animals such as gophers can burrow to approximately 6 feet below ground surface (Salmon and Baldwin, 2009) and ground squirrels can burrow to approximately 4.5 feet below ground surface (Hampton, 2006). In intertidal areas, fat innkeeper worms, ghost shrimp, and certain species of clams can burrow 3 feet or more below ground surface. Coupled with erosion from natural processes such as wind, rain, and tidal action, breaching of the soil cover is a possibility. Therefore, covers will need to be more than 2 feet in depth and/or incorporate biotic barriers to prevent burrowing animals from reaching contaminated soils and bringing the contaminants to the surface. Please explain why a biotic barrier was not included in the design of the cover options and how the Navy will ensure that the cover will not be damaged by burrowing animals and will be maintained in perpetuity. DFG-OSPR does not recommend the use of pesticides due to their ability to bioaccumulate and kill non-target species. Cost estimates for the additional soil coverage, biotic barriers, and management of burrowing animals should be included for the remedial alternatives.</p>	<p>The conceptual designs for the proposed covers are described in Section 4.2.2.1 of the FS Report. These designs differ slightly from those proposed for the intertidal shoreline zone (described in Section 4.2.2.3 and Appendix D of the FS Report) and include at least 2 feet of clean fill. The conceptual design for the covers includes the necessary maintenance and monitoring activities to ensure the integrity of the cover and comply with the pertinent ARARs (described in Section 3.2.3.1 and Appendix B of the FS Report). The covers will be subject to post-closure inspections, maintenance, and monitoring necessary to prevent potential unacceptable exposure to humans and comply with pertinent ARARs. The planned maintenance activities will be detailed in the post-closure operation and maintenance plan (to be prepared in conjunction with the RD). Based on this information, the Navy does not believe that sufficient technical basis exists to support DFG-OSPR’s request for changes to incorporate biotic barriers into the conceptual designs for the soil covers.</p>

Table 2. Responses to Comments from California Department of Toxic Substances Control (DTSC), Department of Fish and Game (DFG), and Department of Public Health (CDPH) on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

Comment #	Page #	Section	Comment	Response
Comments provided by DFG OSPR Staff Toxicologist (Charlie Huang) and Environmental Scientist (Tami Nakahara), dated August 22, 2011 (continued)				
14 (cont.)	3-39 to 3-40	Section 3.3.2.1.7	<p>b. 3rd bulleted item. The Navy states two engineered cover options were retained for evaluation (a reinforced geosynthetic clay liner [GCL] and high-density polyethylene [HDPE] geomembrane) and both options would include an underlying soil foundation layer and overlying soil vegetative cover. GCLs and HDPEs may deter but will not prevent upland burrowing animals from breaching them. Therefore, in upland areas, the GCL and HDPE options will need to include soil covers that are more than 2 feet in depth and/or incorporate biotic barriers. Cost estimates for the additional soil coverage, biotic barriers, and management of burrowing animals should be included for the remedial alternatives.</p> <p>c. 5th bulleted item. The Navy states, “<i>Maintenance includes inspections and repairs for covers that are left in place during future land use.</i>” Please explain who will be responsible for the cost and maintenance of the covers and how it will be determined if there is a breach in the cover. How will these covers be repaired if damaged?</p> <p>d. Please explain how soil covers and engineered alternative caps will be feasible to use in intertidal areas and wetlands where they are susceptible to erosion from wind, rain, waves, currents, tidal action, and bioturbation from benthic organisms. Please provide examples of other intertidal or wetland sites that have successfully implemented this type of remedy.</p>	<p>Please refer to the response on the previous page regarding the Navy’s position that insufficient technical basis exists to support DFG-OSPR’s request for changes to incorporate biotic barriers into the conceptual designs for the soil covers.</p> <p>The Navy will perform post-closure inspections, maintenance, and monitoring necessary to comply with pertinent federal and state requirements, as identified in Section 3.2.3.1 and Appendix B of the FS Report. The planned maintenance activities will be detailed in the post-closure operation and maintenance plan (to be prepared in conjunction with the RD).</p> <p>The conceptual designs for the proposed covers in the intertidal shoreline zone are described in Section 4.2.2.3 and Appendix D of the FS Report. These designs include appropriate components (such as rock armoring) to resist erosion that are consistent with guidelines established by the USACE (USACE, 2008).</p>

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Comment #	Page #	Section	Comment	Response
Comments provided by DFG OSPR Staff Toxicologist (Charlie Huang) and Environmental Scientist (Tami Nakahara), dated August 22, 2011 <i>(continued)</i>				
15	3-54	Section 3.3.2.3.7	Page 3-54, Section 3.3.2.3.7 Containment, subsection covers. The Navy states cover designs for nonaqueous-phase liquid include a minimum of 2 feet of clean imported soil or other engineered cover design. Please see Specific Comments 8a-d.	Please refer to the response to comment 14 (parts a through d).
16	5-9	Section 5.1.4	Page 5-9, Section 5.1.4. Detailed Analysis of Alternatives S-4: Excavation and Off-Site Disposal of Tier 1 and Tier 2 Locations, Followed by Covers, Soil Vapor Extraction, Institutional Controls, and Shoreline Protection. DFG-OSPR is willing to consider Alternative S-4, i.e., Excavation and Off-Site Disposal of Tier 1 and Tier 2 Locations, Followed by Covers, Soil Vapor Extraction, Institutional Controls, and Shoreline Protection. However, DFG-OSPR recommends the soil cover be at least four feet. This is due to the possible presence of burrowing animals, such as ground squirrel, raccoon, opossum, and striped skunk. For example, ground squirrels may burrow to 138 cm below ground surface (Hampton, 2006).	Please refer to the response to comment 14 regarding the Navy's position that insufficient technical basis exists to support DFG-OSPR's request for changes to incorporate biotic barriers into the conceptual designs for the soil covers.
17	5-14	Section 5.3	Page 5-14, Section 5.3. Detailed Analysis of Groundwater Alternatives. DFG-OSPR defers to the California Regional Water Quality Control Board, San Francisco Region regarding acceptability of groundwater remedial alternatives.	Comment acknowledged.
18	--	--	DFG-OSPR has reviewed the subject FS report for Parcel E. If Alternative S-4 is selected, we recommend the soil cover be at least four feet in depth. In addition, DFG-OSPR is concerned about wetland losses due to remedial activities and requests that mitigation for these losses be addressed.	Please refer to the response to comment 14 regarding the Navy's position that insufficient technical basis exists to support DFG-OSPR's request for changes to incorporate biotic barriers into the conceptual designs for the soil covers. Please refer to the response to comment 8 regarding the Navy's planning efforts for wetlands mitigation at HPS.

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Comment #	Page #	Section	Comment	Response
Comments provided by CDPH Environmental Management Branch (EMB) Senior Health Physicist (Larry Morgan), dated August 15, 2011				
19	1-3	Section 1.1	Page 1-3, Section 1.1, "Purpose and Scope", last paragraph states, <i>"This FS Report Addresses only CERCLA-regulated chemicals that are not radioactive. As a result, a radiological Addendum to the FS Report is being prepared to evaluate the Nature and Extent of radiological contamination and risk to human health and the environment, as well as to develop alternatives to address the radiologically impacted sites identified in the Historical Radiological Assessment (HRA)."</i> CDPH-EMB noted this statement and EMB will anticipate reviewing another technical manual addressing the radiological issues for Parcel E-2.	Comment acknowledged. The Navy recently submitted the Draft Final Radiological Addendum to the FS Report for Parcel E. This document, which was submitted on November 17, 2011, included responses to comments from CDPH on the Draft Radiological Addendum to the FS Report for Parcel E (ERRG and RSRS, 2010).
20	3-1	Section 3	Page 3-1, Section 3, "Remedial Action Objectives", "Applicable or Relevant and Appropriate Requirements", "General Response Actions", and "Process Options" does not include any radiological remedial action objectives. EMB is assuming the Navy will propose remedial action objectives in a separate document.	The Draft Final Radiological Addendum to the FS Report for Parcel E, which was submitted on November 17, 2011, includes radiological RAOs.
21	3-13	Section 3.2.1	Page 3-13, Section 3 (3.2.1), "Potential Chemical Specific ARARS" does not include California State Code 17 Title 30256 as a state Chemical Specific ARAR. Please explain the reasons for not including this radiological ARAR as a State ARAR.	The Draft Final Radiological Addendum to the FS Report for Parcel E, which was submitted on November 17, 2011, identifies and evaluates potential radiological ARARs, including Title 17 CCR § 30256.
22	3-34	Section 3.3.2.1.2	Page 3-34, Section 3.3.2.1.2, "Additional Activity Restrictions Related at IR-02 and IR-03", states areas requiring institutional controls at IR Site 02 and 03 would include three components, 1 Engineer Cover, Demarcation Layer and institutional controls to permit land use controls. For IR Sites 2 and 3, the transferee will be required to apply for a license or license exemption or license since institutional controls will be required at IR Site 2 and 3 from the Radiological Health Branch (California Department of Public Health).	The Draft Final Radiological Addendum to the FS Report for Parcel E, which was submitted on November 17, 2011, includes information on the potential applicability of a radiological license or license exemption.

Table 3. Responses to Comments from Regional Water Quality Control Board (Water Board) on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

Comment #	Page #	Section	Comment	Response
Comments provided by Water Board (Ross Steenson and Tina Low), dated November 9, 2011				
1a	--	App. G	Response to Water Board General Comment #1 – Thank you for the information regarding the sheet-pile wall’s anticipated lifespan/effectiveness of the time of its installation in 1998. This information is relevant and should be incorporated into the Section 2.0 text and/or Table 2-4.	The information on the anticipated effectiveness of the existing sheet-pile wall was added to Table 2-4. In addition, the text in Section 3.3.2.3.7 was revised to clarify that the existing sheet-pile wall would not serve as an effective barrier for use in the remedial action.
1b	--	App. G	Response to Water Board General Comment #13 – I have not yet received a copy of the subject report.	The subject report was forward to the Water Board ³ (via e-mail) on November 11, 2011.
1c	--	App. G	Response to Water Board Specific Comment #29 – Revisit this RTC and update it to reflect agreements made (if any) during the working meetings.	The subject response was updated to clarify that the Navy is working on a new project to better delineate hot spots at Parcel E.
2a	ES-1	Executive Summary	Parcel E History and Environmental Setting – Radiological Addendum, p. ES-1 – Clarify in the executive summary that the FS only addresses non-radioactive chemicals and that an addendum will be prepared to evaluate remedial alternatives to address risk from radiological contaminants.	The requested clarification (consistent with the statement included in Section 1.1) was added to the executive summary.
2b	ES-2	Executive Summary	Parcel E History and Environmental Setting – Figure References for IR-45, IR-47, IR-50 and IR-51; p. ES-2 – In the last sentence of the first paragraph on p. ES-2, confirm that the portions of the listed IR sites on Parcel E are illustrated on Figures 2-1 and 2-2.	Figure 2-1 identifies the steam lines (IR-45, in green), fuel lines (IR-47, in red), and transformers (IR-51, in Building 527 on south pier). Figure 2-2 identifies the storm drain and sanitary sewer lines (IR-50).
2c	ES-2	Executive Summary	Parcel E History and Environmental Setting – Reason for Sanitary Sewer and Storm Drain Removal; p. ES-2 – In the last sentence on the page briefly state why the Navy is removing the lines.	The subject sentence was revised as follows: “... <i>the Navy is in the process of removing the existing sanitary sewer and storm drain lines across HPS under a basewide removal action (Navy, 2006a) to address potential radioactive contamination.</i> ” An identical edit was also made in Section 2.2.4.

³ [Acronyms and abbreviations](#) are defined at the end of this appendix (following Table 6).

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Comment #	Page #	Section	Comment	Response
Comments provided by Water Board (Ross Steenson and Tina Low), dated November 9, 2011 <i>(continued)</i>				
2d	ES-10 and ES-11	Executive Summary	Feasibility Study – General Response Actions, Remedial Technologies, and Process Options - Groundwater; p. ES-10 and ES-11 – In reviewing the remedial action objectives for soil and groundwater and comparing against the general response actions, it is not clear how dermal exposure of construction workers to contaminated A-aquifer groundwater will be controlled. Clarify this in the executive summary and in Section 3.0.	Dermal exposure of construction workers to contaminated A-aquifer groundwater will be controlled by the proposed institutional controls. Section 3.3.2.1.2 identifies numerous restricted activities that would be properly controlled through numerous legal and administrative mechanisms. Page ES-10 was revised to clarify that institutional controls for groundwater would mitigate potential unacceptable exposure to chemicals in soil gas or groundwater. An identical edit was made in Section 3.3.1.
2e	ES-11	Executive Summary	Feasibility Study – General Response Actions, Remedial Technologies, and Process Options; p. ES-11 – In the last sentence of this section, the text states that there are five general response actions. However, there are six in the preceding sections (institutional controls, engineering controls, monitoring, removal, treatment, and containment).	The subject sentence was revised to correctly refer to six general response actions.
2f	ES-13	Executive Summary	Feasibility Study – Development of Remedial Alternatives – Groundwater Alternatives; p. ES-13 – In the last sentence of the bullet for Alternative GW-4A, insert “treatment” after “in-situ.”	The subject sentence was revised accordingly. An identical edit was made to Section 4.3.4.
2g	--	Figure ES-4	Figure ES-4 (Updated RI Plume Delineations for VOCs) – The note in this figure represented with one asterisk (*) states that benzene plumes in open space land use areas will not be evaluated in the <i>FS</i> because the vapor intrusion pathway is incomplete. This note then states that “three plumes will not require evaluation in the groundwater remedial alternatives”; however, the asterisk is only used to identify two plumes in the figure (IR-02 Northwest and IR-03).	The subject note in Figure ES-4 (and Figure 2-5) was revised to use the word “these” instead of “three.”

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Comment #	Page #	Section	Comment	Response
Comments provided by Water Board (Ross Steenson and Tina Low), dated November 9, 2011 <i>(continued)</i>				
3a	1-3	Section 1.1	Section 1.1 (Purpose and Scope), last paragraph of p. 1-3 – Section 1.1 states that a radiological addendum to the FS is being prepared to evaluate the nature and extent of radiological contamination and risk to human health and the environment; however, this work was performed and described in the Radiological Addendum to the Revised Final RI. Clarify the purpose of the radiological addendum to the FS.	This statement refers correctly to the Navy’s decision to prepare a radiological addendum to the current CERCLA document for Parcel E (the FS Report), so that both documents could be developed concurrently, thereby resulting in an integrated approach for addressing CERCLA-regulated chemicals at Parcel E. The Navy took a similar approach at HPS Parcels B, C, and D. Although the radiological addendum describes the nature and extent of radionuclides at Parcel E, it also screens, develops, and evaluates remedial alternatives necessary to address radioactive contamination at Parcel E.
3b	1-4	Section 1.1	Section 1.1 (Purpose and Scope), second sentence of p. 1-4 – Provide a definition “radiologically impacted” so that the reader understands that this means there is potential for radiological impact rather than actual, confirmed radiological contamination.	The following sentence was added to the subject paragraph in Section 1.1: <i>“As defined in the HRA, radiologically impacted areas have the potential for radioactive contamination based on historical information or are known to contain or have contained radioactive contamination.”</i>
3c	--	Figure 1-1	Figure 1-1 (Site Vicinity Map) – Confirm whether the over-water structures are part of Parcel E, not Parcel F. Extend this comment throughout the document.	Note “c” on Figure 1-2 correctly describes the status of the piers and berths: <i>“Piers and berths are considered part of offshore Parcel F but are identified in this document for completeness (because they were not discussed in the FS Report for Parcel F).”</i>
3d	--	Table 3-10	Table 3-10 (Detailed Evaluation of GRAs and Process Options for Groundwater - Containment), p. 3 of 3 – In the row for containment, insert a sentence indicating that the current condition of the existing sheet-pile wall is uncertain (see Comment #1a). Extend this comment to Table 3-11.	Tables 3-10 and 3-11 were revised to clarify the uncertain condition of the existing sheet-pile wall at IR-03.
4a	2-18	Section 2.2.7.4	Section 2.2.7.4 (Tidal Effects, p. 2-18) – Since “tidal mixing” is briefly defined, also briefly define “tidal influence.”	Section 2.2.7.4 was revised to add the requested clarification.

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Comment #	Page #	Section	Comment	Response
Comments provided by Water Board (Ross Steenson and Tina Low), dated November 9, 2011 <i>(continued)</i>				
4b	2-18	Section 2.2.8	Section 2.2.8 (Groundwater Beneficial Use Evaluation, p. 2-18) – In the fourth sentence, replace “determined, in a response to a request by the Navy” with “staff concurred with the Navy’s determination.” This change will clarify that it was a Navy determination with a Water Board staff concurrence, rather than a formal action before our Board. Extend this comment to Appendix B (Applicable or Relevant and Appropriate Requirements).	Section 2.2.8 and Appendix B were revised as requested.
4c	2-25	Section 2.3.2.2	Section 2.3.2.2 (Metal Debris Reef in IR-02 Southeast, third paragraph of section, p. 2-25) – I believe that the fourth sentence intended to convey that, because only 2 samples out of 193 samples exceeded the specified RROs, no widespread radiological contamination is present at the Metal Debris Reef. Revise the sentence, as appropriate.	The subject sentence was revised as follows: <i>“The two samples that failed to meet the specified RROs were collected at the bottom of the excavation and were surrounded by other samples that met the specified RROs, thereby confirming that no widespread radiological contamination is present at the Metal Debris Reef.”</i>
4d	2-32	Section 2.3.3.4 and Figures 2-6 and 2-7	Section 2.3.3.4 (Groundwater Plume Delineation Update, TPH, p. 2-32), Figure 2-6 (Updated RI Plume Delineations for Total TPH and PCBs) and Figure 2-7 (Non- Aqueous Phase Distribution at IR-03) – Given the proximity of IR-03 NAPL and impacted groundwater to the Bay and the uncertainty of the condition of the interim measures (existing sheet-pile wall and concrete along the IR-03 shoreline), Water Board staff looks forward to selection and implementation of the permanent remedy in a timely manner.	The Navy agrees with the Water Board’s request to select and implement the permanent remedy for IR-03 in a timely manner. In conjunction with the ongoing effort to finalize this FS Report, the Navy is also performing additional characterization and a bench-scale treatability study at IR-03. The Navy will use the additional data in the RD and will incorporate the necessary flexibility into the Proposed Plan and ROD to account for future data.
4e	--	Figure 2-8	Figure 2-8 (Screening- and Trigger-Level Groundwater Evaluation for Aquatic Life at Parcel E) – A line indicating distance from the shoreline is defined in the legend, but is not used on the figure.	Figure 2-8 was revised to include the line corresponding to a 250-foot distance from the shoreline.
4f	--	Tables 2-6 through 2-9	Tables 2-6 through 2-9 (Groundwater Analytical Results 2005-2009) – Include appropriate definitions of abbreviations and laboratory flags (i.e., NA, U, and J) with each table.	Tables 2-6 through 2-9 were revised to define the abbreviations and laboratory flags.

Table 3. Responses to Comments from Regional Water Quality Control Board (Water Board) on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

Comment #	Page #	Section	Comment	Response
Comments provided by Water Board (Ross Steenson and Tina Low), dated November 9, 2011 <i>(continued)</i>				
5a	3-9	Section 3.1.3.2	Section 3.1.3.2 (Groundwater Remedial Goals for Protection of Human Health, second bullet), p. 3-9 – Section 3.1.3.2 states that the RBCs for the B-aquifer COCs were based on the domestic use scenario of A-aquifer groundwater. Correct this to refer to the domestic use scenario of B-aquifer groundwater.	The subject bullet item was revised as requested.
5b	3-40	Section 3.3.2.1.7	Section 3.3.2.1.7 (Containment, Covers, first and fifth bullets), p. 3-40 – Seawalls located in the southeast portion of Parcel E are mentioned for the first time in Section 3.3.2.1.7. Define the location of these seawalls on a figure.	Figure 1-2 was revised to identify the location of the seawalls in the southeast portion of Parcel E. The subject bullet items in Section 3.3.2.1.7 were revised to include a parenthetical notation directing the reader to Figure 1-2.
5c	3-52	Section 3.3.2.3.6	Section 3.3.2.3.6 (Treatment), p. 3-52 – Containment and excavation are both listed as groundwater treatment technologies. Provide a rationale their inclusion as such.	The subject sentence was revised to delete reference to containment and excavation because they are already discussed in Sections 3.3.2.3.5 and 3.3.2.3.7.
6a	4-5	Section 4.2.2.1	Section 4.2.2.1 (Alternative S-2, Covers, New Covers, last sentence), p. 4-5 – Section 4.2.2.1 states that covers will not be necessary at IR-52 because Tier 1 and Tier 2 excavations will bring the remaining incremental risks to within the acceptable risk management range. However, Alternative S-2 does not include soil excavations. Update the text to provide the appropriate justification for not including a cover at IR-52 under Alternative S-2.	<p>The Final FS Report was revised to better describe the approach for IR-52. Specifically:</p> <ul style="list-style-type: none"> • The RAOs in Section 3.1.1 were revised to clarify that industrial remedial goals are the basis for demonstrating protectiveness of the soil remedies at IR-52. • Section 4.2.2 was revised to indicate that Alternative S-2 would include localized covers at 3 areas where chemical concentrations exceed industrial remedial goals, and would also include institutional controls to restrict residential use at IR-52. • Sections 4.2.3 and 4.2.4 were revised to indicate that Alternatives S-3 and S-4 will remove the Tier 1 hot spots at IR-52 that drive the unacceptable risk relative to the industrial remedial goals and, following this removal, institutional controls will be adequate to protect human health without reliance on maintaining a cover in this area.

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Comment #	Page #	Section	Comment	Response
Comments provided by Water Board (Ross Steenson and Tina Low), dated November 9, 2011 <i>(continued)</i>				
6b	4-12	Section 4.2.4	Section 4.2.4 (Alternative S-4: Excavation and Off-Site Disposal of Tier 1 and Tier 2 Locations, Followed by Covers, Soil Vapor Extraction, Institutional Controls, and Shoreline Protection), p. 4-12 – Correct the text that states “Tier 2 locations are distinct from the Tier 2 locations” to “Tier 2 locations are distinct from the Tier 1 locations.”	The subject sentence was corrected as requested.
6c	--	Section 4	Text References to Other Sections of the FS – Address the following: <ul style="list-style-type: none"> i. Section 4.3.2.1 (Alternative GW-2, Institutional Controls), p. 4-16 – The reference to Section 4.2.2.3 should be 4.3.2.3, and the reference to Section 3.3.2.2.2 should be 3.3.2.1.2. ii. Section 4.4.2 (Alternative N-2: Source Containment, Monitoring, and Institutional Controls), p. 4-31 – The reference to Section 3.3.2.121 should be Section 3.3.2.1.2. iii. Section 4.4.2.4 (Alternative N-2, Radiological Controls), p. 4-32 – The reference to Section 4.2.3.1 should be Section 4.2.2.4. Extend this comment to Sections 4.4.3.6, 4.4.4.7, 4.4.5.6, 4.4.6.8, and 4.4.7.5, as appropriate. 	<ul style="list-style-type: none"> i. Section 4.3.2.1 was revised to correct the erroneous references; however, the Navy revised the third sentence in Section 4.3.2.1 to reflect more specific input from the CCSF (see the response to CCSF specific comment 10). ii. Section 4.4.2 was revised to correct the erroneous reference. iii. Sections 4.4.2.4, 4.4.3.6, 4.4.4.7, 4.4.5.6, 4.4.6.8, and 4.4.7.5 were revised to correct the erroneous references.
6d	4-20	Section 4.3.3.1	Section 4.3.3.1 (Alternative GW-3, Groundwater Containment), p. 4-20 – Check the following: <ul style="list-style-type: none"> i. Receptors - In the first paragraph, revise the text to state that groundwater containment is implemented to control migration of contamination to downgradient “surface water” receptors, not “groundwater” receptors. ii. Function of Slurry Wall - In the second paragraph, briefly describe how the lengthening of the flow path following slurry wall construction will prevent/reduce potential discharge of groundwater contamination. 	Section 4.3.3.1 was revised to include the requested clarifications.
6e	4-40	Section 4.4.5.7	Section 4.4.5.7 (Alternative N-4B, Considerations), p. 4-40 – Section 4.4.5.7 refers to Alternative N-4A where it should refer to N-4B. Please correct the text to read “The considerations for Alternative N-4B are the same as those for Alternative N-4A.”	Section 4.4.5.7 was revised to correct the cited error.

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6f	--	Section 4.4.6.1	<p>Section 4.4.6.1 (Alternative N-5, Source Removal by Excavation) – Address the following:</p> <ul style="list-style-type: none"> i. <i>All NAPL (p. 4-40)</i> – The first paragraph states that the excavation to groundwater (approximately 9 feet bgs) will remove “all NAPL”. Add the phrase “in the unsaturated zone” to this statement since NAPL is also present below the water table. ii. <i>Existing Sheet-Pile Wall (p. 4-41)</i> – Per the RTC to my General Comment #1, depending on the condition of the existing sheet-pile wall, the wall may partly address the difficulties associated with saturated soil and surface water inundation. The language should reflect this uncertainty regarding the wall’s condition. Extend this comment to Section 4.4.7.1. 	Sections 4.4.6.1 and 4.4.7.1 were revised to reflect the requested clarifications.
6g	--	Figure 4-16	Figure 4-16 (Preliminary Optimization Strategy for Removal of NAPL at IR-03) – The word “contingency” is misspelled in the lower, rightmost box.	Figure 4-16 was revised to correct the spelling error.
7a	5-8	Section 5.1.3.1	Section 5.1.3.1 (Overall Protection of Human Health and the Environment: Alternative S-3), p. 5-8 – In the second full sentence on this page, confirm whether excavations may be backfilled with asphalt.	Section 5.1.3.1 was revised to include the requested clarification.
7b	5-14	Section 5.2.8	Section 5.2.8 (Comparison of Soil Remedial Alternatives, Overall Rating), p. 5-14 – Section 5.2.8 does not accurately or adequately address the reasons some alternatives were ranked higher than others. For example, the statement “Alternative S-3 is rated lower mainly because it would be less protective than Alternative S-4 by not removing contaminated soil” implies that soil is not removed as part of Alternative S-3, but soil is removed in both alternatives. Revise this section, as appropriate.	Section 5.2.8 was revised to better explain the relative rankings of each soil alternative.

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Comment #	Page #	Section	Comment	Response
Comments provided by Water Board (Ross Steenson and Tina Low), dated November 9, 2011 <i>(continued)</i>				
7c	5-29	Section 5.4.8	Section 5.4.8 (Comparison of Groundwater Remedial Alternatives, Overall Rating), p. 5-29 – Reconcile the apparent inconsistency between Section 5.4.8 and Section 5.4.3. Section 5.4.8 states that Alternatives GW-4A and GW-4B were deemed more effective in the long-term than Alternative GW-3, but all three of these alternatives received the same ‘Very Good’ rating for long-term effectiveness, and differences in long-term effectiveness are not discussed in Section 5.4.3.	Sections 5.4.3 and 5.4.8 were revised to eliminate the noted inconsistency.
8a	A-12 and A-13	Section A3.1.1	Section A3.1.1 (Aquatic Evaluation Results – Arsenic Screening Evaluation and Trigger-Level Evaluation), p. A-12 and A-13 – For the bulleted discussion related to the wells from which multiple samples exceeded the A-aquifer aquatic evaluation criterion, please place the well ID at the beginning of the bullet. This will significantly improve readability and aid with cross-referencing the discussion with the figure. Also, in the paragraph identifying for which wells that arsenic is a COPEC, it would also improve readability if the wells are listed in the same order as presented in the preceding discussion; this also applies to the listing of the wells under the Trigger-Level Evaluation. Extend this comment throughout Appendix A.	Section A3.1.1, and other pertinent sections of Appendix A, were revised as requested.
8b	A-16	Section A3.1.3	Section A3.1.3 (Aquatic Evaluation Results – Copper Screening Evaluation), last bullet on p. A-16 – Review this paragraph to check whether well IR02MW300A (fourth sentence) warrants its own bullet.	Section A3.1.3 was revised to make the discussion of well IR02MW300A a separate bullet item.

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Comments provided by Water Board (Ross Steenson and Tina Low), dated November 9, 2011 <i>(continued)</i>				
8c	A-17 and A-18	Section A3.1.4 and Figure A3-4	<p>Section A3.1.4 (Aquatic Evaluation Results – Lead Screening Evaluation), p. A-17 and A-18 and Figure A3-4 – Address the following:</p> <ul style="list-style-type: none"> i. Lead Screening Evaluation – Well IR02MW127B, p. A-17 – Per the data presented on Figure A3-4, there are no subsequent sampling events for this well, which renders the conclusion incorrect. ii. Lead Screening Evaluation, p. A-18 – The introductory paragraph for wells with exceedances from multiple samples is missing. iii. Lead Screening Evaluation, p. A-19 – Is the reason for the lack of samples from these IR-03 wells the presence of LNAPL? If so, consider stating this in this section. 	<p>Section A3.1.4 was revised to correct the noted errors.</p> <p>Section A3.1.4 was revised to clarify that samples have not been collected at well IR03MW226A because of the presence of NAPL. NAPL is not present at the other two wells noted in this section (IR03MW218A1 and IR03MWO-1), and the Navy has proposed adding these wells to the long-term monitoring network at IR-03 (see Appendix C).</p>
8d	A-27	Section A3.1.8 and Figure A3-8	Section A3.1.8 (Aquatic Evaluation Results – Zinc Screening Evaluation), p. A-27 and Figure A3-8 – On the figure, post the replacement well (IR02MW301A) data and check the color code of the well ID symbol.	As described on page A-27 (last bullet item) and detailed in Attachment A2, zinc was not detected in five samples collected from well IR02MW301A between May 2007 and April 2008. Accordingly, Figure A3-8 correctly depicts the conditions for well IR02MW301A (data are only presented for wells that have one or more exceedances of the aquatic evaluation criterion).
8e	A-32	Section A3.4.3	Section A3.4.3 (Aquatic Evaluation Results – Aroclor-1254 Screening Evaluation), p. A-32 – The formatting appears to have an unnecessary hard return.	Section A3.4.3 was revised to correct this formatting error.
8f	A-34	Section A3.4.4	Section A3.4.4 (Aquatic Evaluation Results – Aroclor-1260 Screening Evaluation), p. A-34 – The discussion relating to well IR02MW146A concludes that, based on an initial four non-detects followed by a detection, the contaminant is not persistent. This could also be interpreted to indicate migration. Provide an adequate technical rationale to support the interpretation.	Section A3.4.4 was revised to indicate that the data at IR02MW146A are inconclusive but indicate the potential for Aroclor-1260 at this location to migrate to the bay at concentrations exceeding the aquatic evaluation criterion.

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Comments provided by Water Board (Ross Steenson and Tina Low), dated November 9, 2011 <i>(continued)</i>				
9a	B-17	Section B2.1.3	Section B2.1.3 (ARARs Conclusions for Groundwater), p. B-17 – For the first bullet regarding potential ARARs pertaining to specific scenarios, I recommend adding the page number for the reference to the Point of Compliance heading since that presentation occurs much later in the document (p. B-32).	Section B2.1.3 was revised to include the requested clarification.
9b	B-26	Section B2.2.3.1	Section B2.2.3.1 (Federal ARARs – Federal Groundwater Classification – A-Aquifer Drinking Water Source Evaluation), p. B-26 – After the line titled “Depth to groundwater” provide a document citation regarding the well seal of at least 20 feet. After the line titled “Existence of institutional controls ...,” similarly provide the reference to City and County of San Francisco regulations regarding the prohibition regarding domestic use wells. Extend these comments throughout the appendix.	Section B2.2.3.1 was revised to include the requested references.
9c	B-48	Section B3.2.1.1	Section B3.2.1.1 (Detailed Discussion of Location-Specific ARARs – Cultural Resources ARARs - Federal ARARs – National Historic Preservation Act of 1966, as Amended), p. B-48 – For Item 4, include the estimated location of the potential shellmound sites on a figure or, if this is not possible, add a sentence clarifying the fact.	Appendix B was revised to include a figure identifying the potential shellmound location near Parcel E.
10a	--	Section D2.2	Section D2.2 (Ecology) – We support the California Department of Fish and Game’s (CDFG) Specific Comments 1c and 3 (pp 3-4 of CDFG’s comments letter dated August 22, 2011) regarding the potential presence of special-status species within the beach and intertidal wetland habitats at Parcel E.	Please refer to the response to DFG-OSPR comments on the Draft Final FS Report.

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Comment #	Page #	Section	Comment	Response
Comments provided by Water Board (Ross Steenson and Tina Low), dated November 9, 2011 <i>(continued)</i>				
10b	--	Section D4	Section D4 (Evaluation of Retained Shoreline Protection Options) – The Water Board’s responsibilities and roles in protecting the Beneficial Uses of waters of the state are specified in the Porter Cologne Act, the federal Clean Water Act under Section 401, and the San Francisco Bay Basin Water Quality Control Plan (Basin Plan). The Beneficial Uses of the Parcel E shoreline (which is part of the South Bay Basin Hydrologic Planning Area) include Preservation of Rare and Endangered Species (RARE) and Wildlife Habitat (WILD). Therefore, the Water Board has an interest in maximizing the habitat functions of the shoreline area. Please add the following (or similar) language to the bulleted list of considerations in evaluating the potential effectiveness of each shoreline option (p. D-11): “Maximize the habitat and wetland functions of the shoreline areas while complying with established RAOs.”	Section D4 was revised to include “ecological function of the shoreline” as an additional evaluation factor to consider the ecological benefit of shoreline protection options relative to the existing site conditions. As described in Section D2, the most significant ecological function of the shoreline is seasonal use for wintering and migrating wildlife; however, this current ecological function is moderated because of the toxicity of soil and sediment in the shoreline zone. The Navy’s proposed shoreline options focus on protecting humans and wildlife from existing contamination, thereby improving the ecological function of the shoreline. As described in Section D5, the shoreline protection options would comply with the substantive provisions of pertinent federal and state ARARs and the proposed wetlands restoration at Parcel E-2 would satisfy the compensatory mitigation requirements.
10c	--	Section D4.4	Section D4.4 (Hybrid Shoreline Stabilization: Natural Shoreline Materials with Underlying Rock Armor) – This approach appears to be the Navy’s proposed option for the more gradually sloped and wide portions of the shoreline. We appreciate that this option includes natural materials, however there is no discussion of whether vegetation is expected to establish and grow within the material overlaying the rock armor. Please clarify whether the “natural shoreline material” refers to a plantable medium (soil, as referred to in the text of Section D4.4) or coarse sand (as depicted in Figure D-3). Please clarify whether/how the conceptual design incorporates slopes and elevations that promote the establishment of appropriate native vegetation, either through natural recruitment or planting efforts. We understand that specific seeding and planting plans would be part of the remedial design. However, whether a shoreline option allows for native vegetation is an important consideration given the potential for the area to support wildlife including special-status species.	<p>The current conceptual design consists of coarse sand placed on top of the armor rock (as described briefly in Section D4.4.1). Section D4.5 was revised to include the following concluding statement (which is consistent with Section 4.2.2.3): “<i>Refinements to conceptual designs may be prompted by additional site information or stakeholder input and may include changes to the alignment of or construction materials used in the shoreline protection option. However, the refined design must continue to satisfy the RAOs identified in Section D2.6 and provide equivalent (or improved) performance relative to effectiveness, implementability, and cost.</i>”</p> <p>The Navy acknowledges that future refinements may incorporate different soil types and vegetation along the shoreline to enhance site aesthetics and improve ecological function. The Navy will consider such refinements during the RD, but prefers to retain the current conceptual design in the FS Report because (1) native vegetation is not required to protect humans and wildlife, and (2) options relying on vegetative growth have uncertain effectiveness in intertidal environments.</p>

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Comment #	Page #	Section	Comment	Response
10c (cont.)	--	Section D4.4	Based on available information, we assume that a shoreline option that supports appropriate native vegetation would maximize the ecological function of the area. If a sandy/rocky environment is better suited to increasing ecological value at this site, please provide a supporting discussion.	Specifically, the presence of the underlying rock armor may limit vegetative growth in the overlying soil layer, and the rock armor might need to be replaced with a different type of material that is better suited for vegetative growth. The CCSF has identified articulating concrete mats as one alternative material; however, as described in the response to CCSF specific comment 9, the Navy believes that more information is needed to verify the ability of this material to serve as a robust containment structure that is effective in the long-term. In the absence of such information, the Navy believes that the current conceptual design is an appropriate and adequately conservative option to compare against the NCP criteria.

Table 4. Responses to Comments from City and County of San Francisco (CCSF) Department of Public Health (DPH), Environmental Health Section on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

Comment #	Page #	Section	Comment	Response
Comments provided by the CCSF DPH Environmental Engineer (Amy Brownell), dated October 20, 2011				
General Comments				
1	--	--	Vapor Intrusion remedial goals need to be established and soil gas samples collected to analyze the vapor intrusion pathway. We appreciate the Navy's acknowledgement of this issue in its response to comments and the corresponding changes to the document. We look forward to working with the Navy to address this issue sooner rather than later. There are still a few instances where the document contains old wording that contradict these plans for soil gas surveys and planned actions for analysis of the results.	The Navy is preparing a work plan for the second phase of the soil vapor investigation that will include Parcel E. The draft work plan will be submitted to the BCT ⁴ , CCSF, and other project stakeholders for review. Please refer to the responses to comments 11 and 13, which request specific clarifications regarding future actions to address the vapor intrusion pathway.
2	--	--	We appreciate the inclusion of Figure 4-9 and accompanying description of proposed excavations in IR-52 Railroad Right of Way. We also appreciate the removal of the open space restriction for this area which was not necessary or logical. Please add at the appropriate location in the document the following sentence excerpted from the E-2 RI/FS, or a similar sentence, to address the ability to request a change in land-use and the fact that the chosen remedies for residential vs. other uses are the same and therefore a change in use is an expected and feasible change that is allowed and anticipated. We want it to be clear to all readers, as the Proposed Plan and Record of Decision are written that a change in use to residential does not require a change in any of these decision documents. A change in use will require submittal of a request to remove the residential use restriction and possibly the submittal of data and/or analysis of data depending on the extent of the request. The excerpted language from Section 1.8 of the Parcel E-2 RI/FS is: <i>"The proposed remedial alternatives will allow for potential residential use in this area if it is demonstrated that soil contaminants do not exceed levels established elsewhere at HPS for residential reuse or if any of the contaminants that exceed those established levels are addressed by the remedial alternatives."</i>	<p>The Final FS Report was revised to better describe the approach for IR-52. Specifically:</p> <ul style="list-style-type: none"> • The RAOs in Section 3.1.1 were revised to clarify that industrial remedial goals are the basis for demonstrating protectiveness of the soil remedies at IR-52. Future industrial use of IR-52 is consistent with the February 2012 zoning map from the CCSF. • Section 4.2.2 was revised to indicate that Alternative S-2 would include localized covers at 3 areas in IR-52 where chemical concentrations exceed industrial remedial goals, and would also include institutional controls to restrict residential use at IR-52. • Sections 4.2.3 and 4.2.4 were revised to indicate that Alternatives S-3 and S-4 will remove the Tier 1 hot spots at IR-52 that drive the unacceptable risk relative to the industrial remedial goals and, following this removal, institutional controls will be adequate to protect human health without reliance on maintaining a cover in this area.

⁴ [Acronyms and abbreviations](#) are defined at the end of this appendix (following Table 6).

Table 4. Responses to Comments from City and County of San Francisco (CCSF) Department of Public Health (DPH), Environmental Health Section on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

Comment #	Page #	Section	Comment	Response
Comments provided by the CCSF DPH Environmental Engineer (Amy Brownell), dated October 20, 2011 (<i>continued</i>)				
General Comments				
3	--	--	We disagree with the Navy's evaluation of long term costs for implementing the Soil and Groundwater Management Plans, Annual Inspection and Reporting for implementation of land use and activity restrictions and other long term obligations. If the Navy chooses to retain this obligation, which is expected to last in perpetuity, then we think they have underestimated the cost especially if current OMB interest rates are used in the calculation. If the Navy wishes to transfer this obligation to SFRA as the future property owner then they are going to need to include a transfer of a realistic amount of money for the SFRA to implement these obligations because the SFRA has no funding for this activity and the regulatory agencies have made it clear that they do not wish SFRA to pass this obligation on to other future property owners. The Regulatory Agencies' request is for annual inspection and reporting obligations to be retained by a government agency. As you are well aware, government agencies can not accept unfunded mandates.	<p>The Navy has made slight modifications to the estimated long-term costs for implementing institutional controls at Parcel E. The Navy does not believe that further refinement or discussion is necessary to finalize the FS Report because the FS cost estimates are not intended as a planning mechanism for future CERCLA obligations, but are focused on supporting the evaluation of each remedial alternative relative to the NCP criterion for cost. The Navy will work with the CCSF and other stakeholders to ensure that long-term monitoring and institutional controls are properly implemented after the remedial action is completed at Parcel E.</p> <p>As described in Section 5 of the FS Report and consistent with EPA guidance: "<i>Capital and O&M cost estimates are order-of-magnitude-level estimates and have an expected accuracy of minus 30 to plus 50 percent (EPA, 2000b).</i>" The cost estimate tables provided in Appendix E show that the total costs for developing and implementing institutional controls are roughly \$350,000. This value is less than 1 percent of the least expensive combination of remedial alternatives (\$44.7 million for Alternatives S-2, GW-2, and N-2). Therefore, further refinement of the estimated costs for developing and implementing institutional controls would not affect the prescribed accuracy based on EPA guidance (+50/-30 percent) (EPA, 2000).</p>

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Comment #	Page #	Section	Comment	Response
Comments provided by the CCSF DPH Environmental Engineer (Amy Brownell), dated October 20, 2011 (<i>continued</i>)				
General Comments				
4	--	--	There is a fundamental flaw in the terms, description and language used when discussing Institutional Controls and land use and activity restrictions. In addition to making the documents difficult to read, as the error is carried through to subsequent documents and ultimately to documents that are describing long term obligations (e.g. LUC RD, Operation and Maintenance Agreements, Risk Management Plans, CRUPs, etc), it is making it difficult to understand the details of the obligations. Rather than trying to write another set of comments that lists all the instances of the problem and propose changes that the Navy might reject without fixing the fundamental problem, we propose setting up a meeting to discuss the issue. We think we can explain the issue adequately and that the Navy can propose a solution that will fix the problem and meet all Navy requirements. The error is essentially a problem of not accurately defining your terms and/or using one term to describe a category of requirements but then trying to use the same term to describe a distinct subset of those requirements and then losing the distinct and important meaning of the subset and/or the broader category. For this document, the problem occurs in the sections of the document that discuss Institutional Controls which includes the Executive Summary (including tables), Sections 3.2.3, throughout Section 3.3, detailed language in Section 3.3.2.1.2, Tables 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, throughout Section 4.0 and Section 5.0.	<p>A meeting was held on November 16, 2011, with the CCSF DPH and the Navy to discuss this issue. At that meeting, the Navy stated its position that the requested changes were not practical to implement. The technical rationale for the Navy's position is described in the paragraphs below. In addition, the Navy wishes to clarify that the existing language has been reviewed and approved by legal counsel from the Navy, EPA, and DTSC. Therefore, if the CCSF believes that revisions are critical, then the specific requests should be directed to legal counsel from the Navy, EPA, and DTSC.</p> <p>The document was not updated as suggested because DoD (2001) guidance provides a specific definition of "land use controls" that is broader than "institutional controls." Specifically, DoD guidance includes both institutional controls and engineering controls under the more broadly defined term "land use controls." Therefore, these two terms cannot be used interchangeably when addressing or discussing institutional controls. The Navy acknowledges the potential confusion regarding this definition and has attempted to minimize use of the term "land use controls" in this context, and to rely instead on the more precise terms "institutional controls" and "engineering controls." However, the Navy does not agree with the CCSF's suggestion to separately define institutional controls and land use controls because it is not consistent with DoD guidance and would result in significant inconsistencies between CERCLA documents for HPS and other Navy installations.</p>

Table 4. Responses to Comments from City and County of San Francisco (CCSF) Department of Public Health (DPH), Environmental Health Section on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

Comment #	Page #	Section	Comment	Response
Comments provided by the CCSF DPH Environmental Engineer (Amy Brownell), dated October 20, 2011 (continued)				
General Comments				
4 (cont.)	--	--	(see comment above)	<p>Institutional controls are defined in Section 3.3.2.1.2 of the Draft Final FS Report as, “<i>legal and administrative mechanisms used to implement land use restrictions that are used to limit the exposure of future landowner(s) or user(s) of the property to hazardous substances present on the property, and to ensure the integrity of the remedial action.</i>” This definition clearly indicates that the legal and administrative mechanisms (such as covenants, deed restrictions, etc.) are directly linked to the land use and activity restrictions needed to protect human health and the environment. Consistent with DoD guidance, the Navy will continue to use the term “institutional controls” to describe the portion of the CERCLA remedy where certain legal and administrative mechanisms will be used to enforce land use and activity restrictions.</p> <p>The Navy does not agree that further discussion is needed in the FS Report. However, the Navy will (1) minimize use of the term “Land Use Controls” to minimize confusion and (2) work with CCSF during development of the RD to adequately describe the mechanism by which institutional controls will be enforced.</p>
5.	--	--	In our opinion, remediation of the NAPL source area at Site IR-03 should be given special consideration given the high levels of impact and the proximity of the impacts to the Bay. In our opinion, the oil ponds at Site IR-03 are likely the most significant remaining contaminated area at HPS and represent the largest ongoing threat to the Bay. It is our opinion that the NAPL source area presents a significant long-term threat to the Bay, unlike the majority of remaining contaminated areas at HPS, which generally contain lower level residual contaminants and/or are located further away from the Bay margin. Based on this special consideration of this area, we offer the following comments regarding the evaluation of remediation alternatives, and we request that the Navy provide additional analysis to address these concerns:	While the Navy acknowledges the significance of the remaining contamination at IR-03, the Navy does not agree that sufficient information exists to warrant evaluation of an additional excavation alternative for the Final FS Report. The site characterization information for IR-03, as presented in the Draft Final FS Report, is identical to the information that was available for the Revised RI Report and Draft FS Report. Therefore, the Navy believes that the request for a change to the Draft Final FS Report is not supported by new information. The Navy proposes to (1) continue to perform additional characterization as part of interim treatability studies, and (2) proceed with the FS Report by evaluating each remedial alternative in accordance with the NCP criteria and EPA guidance.

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Comment #	Page #	Section	Comment	Response
Comments provided by the CCSF DPH Environmental Engineer (Amy Brownell), dated October 20, 2011 (<i>continued</i>)				
General Comments				
5 (<i>cont.</i>)	--	--	<p>1. We recommend evaluation of an alternative that bridges the gap between Alternatives N-5 and N-6 with respect to the depth of excavation. It appears that Alternative N-5 includes excavation to the water table (9 feet bgs) and Alternative N-6 includes excavation to 35 feet bgs. A review of site investigation data suggests that the NAPL source area exists primarily in the top 10 feet of the groundwater zone, suggesting that an excavation to this depth (approximately 19 feet bgs) only would capture most or all of the NAPL source area, without the intensity of the dewatering and other considerations (e.g., shoring) listed for the excavation to 35 feet bgs. There is mention in the document of NAPL detected as deep as 25 feet bgs, however this appears to be a single measurement and not likely indicative of conditions throughout the Oil Ponds. If needed, a deeper excavation in a limited portion of the site could be performed, without deepening the entire excavation area.</p> <p>2. We recommend a greater level of evaluation of Alternative N-6. In the document, this alternative appears to be rated relatively poorly primarily due to the concerns about implementability. While we concur with these concerns if using a sheet pile wall as the primary mechanism for side wall stability during excavation, it is our opinion that other technologies exist, albeit at a potentially greater cost. Currently, the cost of Alternatives N-5 and N-6 are essentially identical at approximately \$22M. We recommend that the Navy prepare a design concept for N-6 that is safe and feasible and present the associated costs. It may turn out that the cost for N-6 is too high to justify implementation of the alternative, but at least it would allow for a direct comparison of costs to determine whether the added costs are worth the benefits of a fully remediated site.</p>	<p>The Navy believes that the Draft Final FS Report provides an appropriate range of remedial alternatives for IR-03. Further, the Navy believes that, while some uncertainty exists regarding the nature and extent of NAPL at IR-03, adequate information is available to support the FS evaluation. The Navy wishes to finalize the FS Report in the most expeditious manner possible to move forward with the cleanup process at IR-03. The Navy believes that the remaining uncertainty regarding the nature and extent of NAPL at IR-03 can be resolved prior to the RD, and that appropriate language can be developed in the Proposed Plan and ROD that will provide adequate flexibility in accounting for future data.</p> <p>The Navy believes that Alternative N-6 was properly developed and evaluated relative to the NCP requirements and EPA RI/FS guidance (EPA, 1988). Regarding the comparison of Alternatives N-5 and N-6, the Navy does not agree with the reviewer's assertion that Alternative N-6 should be rated higher based on an increased long-term effectiveness and comparable cost relative to Alternative N-5. As detailed in Section 5.6 and summarized in Tables 5-6 and 5-7, the improved long-term effectiveness of Alternative N-6 is offset by decreased performance relative to (1) reduction of mobility, toxicity, or volume through treatment (because the excavation and off-site disposal would not involve treatment); (2) short-term effectiveness (because of the significantly larger excavation effort); and (3) implementability (also because of the significantly larger excavation effort).</p>

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Comment #	Page #	Section	Comment	Response
Comments provided by the CCSF DPH Environmental Engineer (Amy Brownell), dated October 20, 2011 (<i>continued</i>)				
General Comments				
5 (<i>cont.</i>)	--	--	<p>If the costs for treatment vs. complete removal of this ongoing source to the Bay are identical then it would seem to favor complete removal because the contamination will be gone from the site.</p> <p>3. We recommend a more detailed evaluation of the differences between thermal (low-heating), thermal with steaming (high-heating), and excavation, in terms of the expected residual concentrations. The document appears to acknowledge that excavation has a more favorable long-term effectiveness, presumably because it fully removes the contaminated materials while thermal treatment would leave some residuals. We suggest an evaluation of whether there are portions of the NAPL hydrocarbon range that are so heavy that they may not be effectively remediated even under high-heat thermal treatment. In addition, the document appears to rate low-heat thermal and high-heat thermal as having a similar effectiveness of remediation. We suggest reviewing this evaluation, because intuitively it seems that low-heat thermal would leave behind more residual than high-heat thermal.</p> <p>4. With respect to evaluating the implementability and effectiveness of both the excavation and thermal technologies, a description of the means and methods used to “close” the ponds in 1974 would be useful, if that information is available in Navy records. In particular, we suggest adding a description of and the quantity of any debris placed in the ponds during closure and evaluating the impact of that debris on the technologies.</p>	<p>The Navy’s ongoing treatability study will gather more information to support the requested evaluation, but it is not available at this time. In the absence of this information, the Navy believes that the current evaluation of thermally enhanced extraction of NAPL provides an adequate comparison to the proposed excavation alternatives. As described in Section 3.3.2.3.5 of the Draft Final FS Report, thermally enhanced extraction of NAPL can be optimized using a phased approach that varies the heating temperature to enhance NAPL extraction, but the optimization process will require data from bench-scale and pilot-scale treatability studies. As described in Section 4.4, Alternatives N-3, N-4A, N-4B, and N-5 each include a relatively conservative approach to thermally enhanced extraction of NAPL involving electrical resistive heating applied throughout the entire 2-acre IR-03 boundary. The Navy believes that this approach is adequately conservative for the purposes of the FS Report.</p> <p>The Navy has presented all available information for IR-03 in the Draft Final FS Report.</p>

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Comment #	Page #	Section	Comment	Response
Comments provided by the CCSF DPH Environmental Engineer (Amy Brownell), dated October 20, 2011 (continued)				
General Comments				
5 (cont.)	--	--	<p>5. It is our strong preference that the Oil Ponds be remediated as much as possible. Given the millions of dollars that have been spent at HPS for removing soil that was barely radiologically indistinguishable from background, it seems logical that the funds to remove a large and significant source of ongoing contamination should be obligated by Congress so that future generations do not have to continue to manage this potential threat to the Bay. We will be happy to assist the Navy in efforts to obtain the necessary funding for this work.</p> <p>6. Lastly, given that Site IR-03 is immediately adjacent to the Bay, if excavation is performed, we would prefer that the area excavated is left open to the Bay either as open water or as a shallow mudflat. This may also reduce the overall cost by reducing the volume of backfill required.</p>	<p>The Navy wishes to clarify that the performance objectives for the NAPL alternatives focus on preventing or minimizing migration of NAPL (or associated constituents in groundwater) to San Francisco Bay (see RAOs in Section 3.1.4). Further, the Water Board's guidance for closing low-risk fuel sites (as cited in Section 3.3.2.3.5) emphasizes NAPL removal to the maximum extent practicable. No regulatory requirements would mandate physical removal of the NAPL if it is not considered practical. The Navy's evaluation of the existing remedial alternatives, which include complete removal under Alternative N-6, relative to the NCP criteria is adequate to identify the preferred alternative in the Proposed Plan. As previously stated, the Navy wishes to finalize the FS Report in the most expeditious manner possible and believes that the remaining uncertainty regarding the nature and extent of NAPL at IR-03 can be resolved prior to the RD, and that appropriate language can be developed in the Proposed Plan and ROD that will provide adequate flexibility in accounting for future data.</p>
6	--	Table ES-2	<p>Executive Summary, Table ES-2, Page 1 of 8, Institutional Controls, Administrative Mechanism, Comments. We disagree with the statement that Administrative Mechanisms are "low cost". If the full cost of complying with Soil and Groundwater Management Plans and annual reporting obligations are properly evaluated for perpetuity, including the proper time value of money calculations, the actual cost is higher than shown in your estimates. This is especially true given the current OMB interest rates which are very low. Since the Navy often tries to pass these costs on to future property owners these become significant costs that have to be discussed and negotiated as part of the transfer of property.</p>	<p>Please refer to the response to general comment 3 regarding the Navy's position that the FS cost estimates are adequate to support the evaluation of each remedial alternative relative to the NCP criterion for cost. In addition, the Navy wishes to clarify that the OMB discount rates are used to calculate a present value for each remedial alternative that, as recommended in EPA guidance, is the appropriate basis for comparing remedial alternatives. EPA guidance defines present value as "<i>the amount needed to be set aside at the initial point in time (base year) to assure that funds will be available in the future as they are needed, assuming certain economic conditions</i>" (EPA, 2000). As shown in the cash flow analyses provided in Appendix E, the present value of long-term expenditures is reduced using the discount rates. Accordingly, the present values of remedial alternatives do not vary significantly when the long-term monitoring or maintenance activities are extended beyond the 30-year evaluation period recommended in EPA guidance.</p>

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Comment #	Page #	Section	Comment	Response
Comments provided by the CCSF DPH Environmental Engineer (Amy Brownell), dated October 20, 2011 (<i>continued</i>)				
Specific Comments				
6	--	Table ES-2	(<i>see comment above</i>)	The Navy demonstrated this point in a sensitivity analysis for the remedial alternatives for Parcel E-2 (see Appendix S of the Final RI/FS Report for Parcel E-2 [ERRG and Shaw, 2011]). Specifically, the analysis for Alternatives 3A and 3B at Parcel E-2 revealed that the percent differences between a 30-year and 120-year post-closure maintenance period are less than 14 percent, or well within the accuracy prescribed in EPA guidance for FS cost estimates (+50/-30 percent) (EPA, 2000).
7	2-22	Section 2	Section 2, page 2-22, last paragraph: There is discussion of MPPEH found via remediation efforts but no date(s) are provided. It would be helpful to know if MPPEH was only found via the PCB hot spot removal effort or throughout the decades-long cleanup. Please provide a statement describing in detail when, where, and how the MPPEH was discovered. If this was documented in greater detail in a previous document, please reference the relevant document, too.	The subject section of the document summarizes the removal action performed at IR-02 Northwest and Central from May 2005 to April 2007 (see statement at the beginning of Section 2.3.2.1 on page 2-21). The MPPEH described in this section was identified during the removal action and not during any previous actions. The discussion of MPPEH is from a 2010 document (TtECI, 2010) that is referenced on page 2-23.
8	--	Table 3-12	Section 3, Table 3-12 (page 1 of 5), one of the "narrative performance standards" for soil covers is the prevention of standing water. We are clarifying that it is our understanding that some standing water in shallow depressions on top of the cover will be acceptable as long as the ponding duration is not very long. Please note: The redevelopment of the site intends to include some small-scale variability in hydrology within the complex of swales, shallow depressions, and upland areas on Parcel E to use these areas as stormwater treatment wetlands.	<p>The Final FS Report was revised to clarify that the prohibition on standing water does not apply to the soil covers in Parcel E, but only the low permeability covers proposed in IR-02 and IR-03. Specifically:</p> <ul style="list-style-type: none"> • Table 3-12 was revised to eliminate the phrase "<i>and prevent standing water</i>" and the reference to Title 27 CCR § 21090(b)(1) on pages 1 and 2 (corresponding to the soil and asphalt/concrete covers). • Sections 3.2.3.1 and 3.2.3.3, and corresponding portions of Appendix B, were revised so the requirements of Title 27 CCR § 21090(b)(1) apply only to the low-permeability covers proposed at Parcel E. In addition, Section B4.1.2.2 in Appendix B was revised to provide the rationale for this decision. <p>The Navy believes that this clarification will adequately address the CCSF's redevelopment plans for Parcel E.</p>

Table 4. Responses to Comments from City and County of San Francisco (CCSF) Department of Public Health (DPH), Environmental Health Section on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

Comment #	Page #	Section	Comment	Response
Comments provided by the CCSF DPH Environmental Engineer (Amy Brownell), dated October 20, 2011 (<i>continued</i>)				
Specific Comments				
9	4-5 to 4-6	Section 4.2.2.3; Figure D-3	<p>Section 4.2.2.3 (pages 4-5 to 4-6) and Figure D-3: The Navy seems to have selected 75-pound rock riprap as the remedy for the steep/narrow shoreline areas and natural shoreline materials with underlying rock armor for the broader, more gently-sloped shoreline areas.</p> <p>a. Please consider whether other shoreline armoring options listed in Table 3-9, such as articulating concrete mats, would be feasible. Could articulating concrete mats achieve the same objectives as underlying rock armor?</p> <p>b. In areas where you must retain revetment, please maximize the use of "areas where soil and vegetation could be placed" within and along the revetment, per the "Comments" column on Table 3-9, page 3 of 3, for the shoreline armoring remedy.</p> <p>In light of the significant excavations that the Navy has already conducted along the Parcel E shoreline and the future excavations that are proposed in the IR-03 and IR-02 areas, we encourage the Navy to consider the following:</p> <p>c. Is it necessary to replace like with like when conducting hotspot excavations in shoreline areas? Are there rules that say you must replace like with like when it comes to shoreline options? Could the end result of some contaminant removal be the net decrease in the slope of the shoreline and/or the net decrease in resultant surface elevation such that a more natural looking shoreline will be created in conjunction with underlying rock armor or articulating concrete mats as necessary? Might these more natural shoreline options be as feasible to install as revetment?</p>	<p>The Navy wishes to clarify that the FS Report does not select any specific options within the proposed remedial alternatives, but rather presents conceptual designs to be evaluated relative to the NCP criteria. In addition, the Navy wishes to clarify that Sections D4.2.1 and D4.4.1 detail the conceptual designs for the options involving rock armor. Specifically, the conceptual designs specify (in accordance with established engineering guidance) that:</p> <ul style="list-style-type: none"> • 75-pound rocks are necessary to effectively withstand the design wave height and planned slopes for steep and narrow shoreline areas. • 25-pound rocks (to be overlain by natural soil) are necessary to effectively withstand the design wave height and planned slopes for gradually sloped and wide shoreline areas. <p>As stated in Section 4.2.2.3 (bottom of page 4-6), the Navy will further evaluate the shoreline protection options during the RD. Section 4.2.2.3 further states that: <i>"Refinements to conceptual designs may be prompted by additional site information or stakeholder input, and may include changes to the alignment of or construction materials used in the shoreline protection option. However, the refined design must continue to satisfy the RAOs identified in Section 3.1.2 and provide equivalent (or improved) performance relative to effectiveness, implementability, and cost."</i></p> <p>The Navy acknowledges the potential benefits of articulating concrete mats in facilitating vegetative growth and enhancing site aesthetics and will further evaluate this product during the RD. However, the Navy believes that more information is needed to verify the ability of articulating concrete mats to serve as a robust containment structure that is effective in the long-term. In the absence of such information, the Navy believes that rock armor is an appropriate and adequately conservative option to compare against the NCP criteria.</p>

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Comment #	Page #	Section	Comment	Response
Comments provided by the CCSF DPH Environmental Engineer (Amy Brownell), dated October 20, 2011 (<i>continued</i>)				
Specific Comments				
9 (<i>cont.</i>)	4-5 to 4-6	Section 4.2.2.3; Figure D-3	<p>d. In areas where you have already excavated the shoreline (e.g. PCB hotspot) have you already removed enough contaminated soil and replaced the area with clean backfill to the point where there is no need for installation of the either shoreline option? (e.g. rock revetment or underlying rock armor) Is there enough clean fill on top of deep buried shoreline sediments that leaving a completely natural shoreline is a possibility?</p> <p>e. Is excavating for a more natural shoreline option (underlying rock armor or articulating concrete mats) less costly than rock revetment? Since cost is a consideration in the FS and the end result of a natural shoreline option is more natural shoreline which is favored by several government agencies and the City can those two factors put the weight of evidence in favor of the installation of more natural shoreline areas?</p>	<p>The Navy wishes to clarify that, as shown on Figures 4-2 through 4-5 in the Draft Final FS Report, relatively few hotspot excavations are identified in the intertidal shoreline zone at Parcel E. Accordingly, large-scale excavation is not necessary to meet the RAOs and protect human health and the environment. However, the request to consider reducing existing shoreline slopes was considered as part of the evaluation in Appendix D. As described in Section D4.1, the most cost-effective and readily implementable approaches for shoreline protection are those that contain shoreline sediment without significantly altering the existing topography. For example, hybrid stabilization of narrow and steep shoreline areas is not the most cost-effective and readily implementable option because the existing slopes require extensive modification to ensure their long-term stability, thereby increasing excavation and off-site disposal of both shoreline sediment and onshore soil (the removal of which is not necessary to meet the RAOs and protect human health and the environment).</p>
10	4-9; 4-15	Section 4.2.2.7; 4.3.2.1	<p>Page 4-9, Section 4.2.2.7 Engineering Controls and Monitoring, Engineering Controls, fourth sentence and Page 4-15, 4.3.2.1 Institutional Controls, third sentence. The remedial alternatives section incorrectly states that land use restrictions would include “prohibitions on construction.” To better accord with section 3.3.2.1.2, and specifically to the section entitled “Activity Restrictions Relating to Soil and Associated VOC Vapors at Specific Locations within Parcel E” on page 3-33, which correctly describes the institutional controls and activity restrictions, we recommend making the following changes to the text. The fourth sentence under the heading “Engineering Controls” in section 4.2.2.7 should be revised to read: “In addition, as described in Section 3.3.2.1.2, institutional controls would generally require that the construction of new buildings or reuse of existing buildings in an ARIC for VOC vapors include vapor barriers or other vapor control systems to prevent exposure</p>	<p>Sections 4.2.2.7 and 4.3.2.1 were revised as requested.</p>

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Comment #	Page #	Section	Comment	Response
Comments provided by the CCSF DPH Environmental Engineer (Amy Brownell), dated October 20, 2011 (<i>continued</i>)				
Specific Comments				
10 (<i>cont.</i>)	4-9; 4-15	Section 4.2.2.7; 4.3.2.1	of residents to VOC vapors.” Similarly, the third sentence of section 4.3.2.1 should be revised to read: “Land use restrictions would include the requirement that construction of new buildings or reuse of existing buildings in an ARIC for VOC vapors would incorporate vapor barriers or other vapor control systems to prevent the exposure of residents to VOC vapors.” By the way, this third sentence of Section 4.3.2.1 currently refers to Section 4.2.2.3 Shoreline Protection which does not seem to be a logical reference. If you accept our suggested revisions this problem will be corrected.	(<i>see above</i>)
11	4-9	Section 4.2.2.7	Page 4-9, Section 4.2.2.7 Engineering Controls and Monitoring, Engineering Controls, fourth sentence and Page 4-15, 4.3.2.1 Institutional Controls, third sentence. The reference to “VOC plumes” is incorrect. The reference should be to Areas Requiring Institutional Controls for VOCs which will be determined after the soil gas levels are tested and if any of the gridded one acre areas are found to contain soil gas above the soil gas action levels.	Section 4.2.2.7 was revised as requested.
12	4-12	Section 4.2.4	Page 4-12, Section 4.2.4, first paragraph, last sentence There seems to be something wrong with the sentence that states “Tier 2 locations are distinct from the Tier 2 locations...”	The subject sentence was revised to state: “ <i>Tier 2 locations are distinct from the Tier 1 locations...</i> ”
13	4-15 and 4-16	Section 4.3.2.1	Pages 4-15 and 4-16, 4.3.2.1 Institutional Controls and RTCs to Specific Comment 24 You do not, as stated in the RTCs, “...clarify that the ARIC for soil vapors will be adjusted based on the findings of an upcoming survey.” There are several sentences in this section that contradict you plans for an upcoming survey or at least need to be modified to more clearly align with the planned upcoming parcel- wide soil gas survey. For instance:	Section 4.3.2.1 was revised to delete reference to implementation of institutional controls across redevelopment blocks and to clarify that the ARIC for soil vapors will be adjusted based on the findings of an upcoming survey.

Table 4. Responses to Comments from City and County of San Francisco (CCSF) Department of Public Health (DPH), Environmental Health Section on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

Comment #	Page #	Section	Comment	Response
Comments provided by the CCSF DPH Environmental Engineer (Amy Brownell), dated October 20, 2011 (<i>continued</i>)				
Specific Comments				
13	4-15 and 4-16	Section 4.3.2.1	<ul style="list-style-type: none"> First sentence “would be implemented across redevelopment blocks”. This phrase needs to be deleted. You do not plan to implement restrictions across redevelopment blocks. You plan to grid the site into one acre grids and determine which of those grids require an ARIC for VOCs based on the results of a soil gas survey. Fourth sentence please delete this sentence which states “Institutional controls would be enforced on an entire block even if only a portion of that block posed an unacceptable risk...” You are not implementing the VOC ARIC for entire redevelopment blocks. You are planning to use one acre grids. The words “institutional controls” are not being used properly in this section. Please refer to the request for a meeting to discuss this issue. 	<p>(see above)</p> <p>Please refer to the response to general comment 4 regarding the Navy’s rationale for retaining use of the term “institutional controls.”</p>
14	--	Figure 4-1	Section 4, Figure 4-1 The legend for Shoreline Areas refers to Appendix C and we believe it should refer to Appendix D.	Figure 4-1 was revised to correctly refer to Appendix D.
15	--	Figure 4-11	Section 4, Figure 4-11: The sheetpile wall is indicated in this figure, installed outboard of the NAPL area. In several places in the text reference is made to this sheet pile wall. It is unclear if the Navy is going to rely on this steel wall as a function of a remedy. If so, the condition of this wall needs to be described so a lifetime can be estimated. Please provide a description of its condition and whether or not it will remain in place as part of a remedy or will be removed and disposed of.	The Navy has not evaluated the condition and lifespan of the sheet-pile wall since it was installed in 1998. Testing performed in July 1998 indicated that without cathodic protection the wall would provide adequate containment for 3 years (IT Corporation, 1999). Accordingly, the Navy will not rely on the existing sheet-pile wall as a component of the final remedy.

**Table 5. Responses to Comments from Arc Ecology on the
Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011**

Comment #	Page #	Section	Comment	Response
Comments provided by Saul Bloom, dated November 18, 2011				
General Comments				
1	--	--	<p>Arc Ecology, under contract with San Francisco International Airport, is pleased to submit the following comments on the Navy's Draft Feasibility Study for Parcel E of the Hunters Point Shipyard. These comments were developed by Roger Leventhal of Far West Engineering and Dr. Peter Baye with input and commentary included from Arthur Feinstein of the Sierra Club. Please Note: These comments are specific to the Feasibility Study's relationship to the proposed Hunters Point Shipyard South Shore Wetlands project Arc Ecology's has undertaken under contract with SFO and are to be seen as complementary to our commentary on the general CERCLA issues associated with the Parcel E Feasibility Study submitted separately by Dr. Michael McGowan. The Sierra Club and Audubon Society are expected to submit their own comment letters based on this analysis.</p> <p>Arc Ecology has a number of comments which will be described in more detail below. They are summarized here for convenience.</p>	Comment acknowledged.
2A	--	--	<p>The alternatives presented in the Parcel E Draft Feasibility Study are inconsistent with the project approved and required property reuse plan outlined in the Draft November 11, 2009 Candlestick Point Hunters Point Shipyard Environmental Impact Report certified by the San Francisco Planning and Redevelopment Commissions June 2, 2010.</p> <p>The alternatives considered in the FS are inconsistent with the mitigation and site reuse requirements established under the CEQA process conducted by the City of San Francisco and described within the Candlestick Point Hunters Point Shipyard Environmental Impact Report (EIR) certified by the San Francisco Planning and Redevelopment Commissions on June 3, 2010 and accepted by the San Francisco Board of Supervisors in July 2010.</p>	<p>CEQA⁵ does not apply to the Navy's cleanup decisions under CERCLA, and there is no legal requirement for the Navy to conform to CEQA. Nonetheless, the Navy has reviewed the SFRA's Final EIR (SFRA, 2010a) and has several observations concerning the reviewer's comment that are discussed in the following paragraphs.</p> <p>The Navy does not agree with the reviewer's assertion that the remedial alternatives presented in the Draft Final FS Report are inconsistent with the development alternatives presented in the SFRA's Final EIR (SFRA, 2010a). Each of the development alternatives evaluated in the SFRA's Final EIR, except for Alternative 1 (which evaluated no new development), included a parks and open space area along the Parcel E shoreline. Upon completion of the CCSF's review process, the SFRA amended its HPS Redevelopment Plan (SFRA, 2010b) to reflect the selected development alternative. The proposed remedial alternatives</p>

⁵ [Acronyms and abbreviations](#) are defined at the end of this appendix (following Table 6).

**Table 5. Responses to Comments from Arc Ecology on the
Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011**

Comment #	Page #	Section	Comment	Response
Comments provided by Saul Bloom, dated November 18, 2011 (<i>continued</i>)				
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2A (<i>cont.</i>)	--	--	(<i>see comment above</i>)	presented in the Draft Final FS Report are compatible with the future reuses identified in the amended plan. The CCSF has reviewed and commented on the Draft Final FS Report and, based on their comments (see Table 4 in this appendix), the CCSF concurs with the Navy's position on this matter.
2B	--	--	<p>The alternatives presented in the Parcel E Draft Feasibility Study are inconsistent with the court approved settlement agreement between the Lennar Corporation and the City of San Francisco and the Golden Gate Audubon Society and Sierra Club which now constitutes the preferred reuse alternative for a portion of Parcel E.</p> <p>The design concepts described below have been incorporated into the City/ Lennar Parcel E reuse plan. The concept calls for a system of:</p> <ul style="list-style-type: none"> • naturalistic stormwater treatment swales, • a living shoreline beach, and • lagoon system <p>BRAC conformance would seem to require modifications of the FS consistent with these reuse objectives.</p> <p>Assessing means by which alternative designs can be adapted to meet redevelopment focused ARARs is a fundamental task of feasibility study. We believe that the alternatives considered in the FS can be easily modified and improved based on the analysis presented within this letter and thereby become compatible with the mitigation and site reuse requirements described within the EIR and aligned with other redevelopment specific ARARs, such as shoreline access, esthetics, recreation, wildlife habitat, and stormwater treatment for water quality.</p>	<p>The Navy does not agree with the reviewer's assertion that the remedial alternatives presented in the Draft Final FS Report are inconsistent with the court-approved settlement agreement, which identified design concepts for portions of Parcel E that were to be implemented by the CCSF's developer (i.e., Lennar Corporation). Although the Navy's CERCLA cleanup decisions are not subject to CEQA, CEQA is not a CERCLA ARAR, and the Navy is not a party to or legally bound by the settlement agreement, the Navy has made extensive efforts to consider and address the SFRA's amended HPS Redevelopment Plan in the FS Report.</p> <p>On March 15, 2011, Navy staff attended a meeting hosted by CCSF and Lennar Corporation that included a presentation from Mr. Roger Leventhal and Dr. Peter Baye (Arc Ecology, 2011). Mr. Leventhal and Dr. Baye, under contract to Arc Ecology, presented a preliminary design concept to the parties in attendance, which included representatives from the BCT, CCSF, and other project stakeholders. Mr. Leventhal and Dr. Baye discussed their preliminary design concept relative to the Navy's preliminary concepts for protecting the Parcel E shoreline, as presented to the BCT, CCSF, and other project stakeholders in January 2011 (Navy, 2011). On page 8 of the Arc Ecology presentation, it was stated by the presenters that "<i>our plan works with (and we believe enhances) Navy proposals.</i>"</p>

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2C	--	--	<p>Adoptions of the proposed mitigation will significantly improve BRAC and Reuse Plan conformance.</p> <p>We therefore strongly recommend that the Navy adopt compatible modifications of the FS preferred alternatives to incorporate conceptual designs for the parkland grasslands and stormwater treatment swales in uplands of Parcel E, and broad constructed sand beach platforms with barrier beach and shallow lagoons (“living shorelines” on top of the proposed armored designs) to produce a final preferred alternative for Parcel E.</p> <p>This adaptation of the proposed alternative would reconcile otherwise significant conflicts among the armored shoreline designs and basic redevelopment requirements for habitat, water quality, open space, esthetics, and recreational uses of Hunters Point to create a true environmental legacy at Hunters Pt.</p>	As stated in the response to general comment 2A, the proposed remedial alternatives presented in the Draft Final FS Report are compatible with the future reuses identified in the SFRA’s amended HPS Redevelopment Plan (SFRA, 2010b).
3	--	--	<p>Comments on the Proposed Containment Cap Alternatives for Parcel E</p> <p>Our comments fall within two major subject areas:</p> <ul style="list-style-type: none"> • Comments on the proposed containment cap alternatives and the need to more explicitly recognize containment cap design modifications that would allow the City of SF and Lennar to meet their CEQA obligations for Parcel E reuse, and • Comments on the proposed shoreline modifications which fail to consider alternative shoreline designs that allow for a living shoreline and habitat that meet Navy requirements. 	See below for the Navy’s responses to general comments 3A and 3B.

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3A	--	--	<p>The proposed Parcel E containment caps</p> <ol style="list-style-type: none"> 1. Alternatives contained in the Draft Final Parcel E FS are too vaguely described and do not acknowledge the future site reuse requirements of the City of San Francisco and Lennar under CEQA (project EIR dated 11-12-09). <ol style="list-style-type: none"> a. The FS should reiterate all applicable CERCLA and Redevelopment ARARs that may be constrained by, or benefit from, containment cap alternative designs. b. The FS should identify feasible means by which the alternatives may be amended in order to satisfy the CERCLA and Redevelopment ARARS and also identify how the current alternatives fail to meet them. c. This is a basic task of a feasibility study. These ARAR reuse requirements under CEQA include but are not limited to the following: <ol style="list-style-type: none"> i. Construction of approximately 80 acres of natural native grasslands habitat on Parcels E and E2 combined (approximately 45 acres on Parcel E) ii. Development of raptor foraging habitat iii. Increase in tree/shrub cover with a goal of planting approximately 10,000 new trees across the project site outside of the new grasslands habitat iv. Meeting SF PUC requirements for natural stormwater drainage and treatment d. The Draft Final FS does not acknowledge or provide for the grading and drainage requirements of the proposed native eco-parks located on top of the containment cap. 	<p>The Navy believes that the remedial alternatives in the Draft Final FS Report are adequately developed to support an informed risk management decision using the NCP evaluation criteria. As stated in the response to general comment 2A, the proposed remedial alternatives are compatible with the future reuses identified in the SFRA's amended HPS Redevelopment Plan (SFRA, 2010b). In addition, Section 3.3.2.1.7 of the Draft Final FS states that the Navy will continue to work closely with SFRA and other stakeholders to align the remedial alternatives for Parcel E with SFRA's redevelopment project to the maximum extent practical. The Navy has identified and evaluated all potential federal and state ARARs for the remedial alternatives at Parcel E in accordance with CERCLA and the NCP (see Section 3.2 and Appendix B in the Draft Final FS Report). Arc Ecology has not identified specific requirements that it believes are ARARs other than CEQA. CEQA is not an ARAR for CERCLA actions because:</p> <ul style="list-style-type: none"> • CEQA is applicable to state discretionary decision-making but not to actions of the federal government. • CERCLA performs the same function as, and is functionally equivalent to, the state's requirements under CEQA. Specifically, EPA and the Navy have determined that the requirements of CEQA are no more stringent than the requirements for environmental review under CERCLA. Pursuant to the provisions of CERCLA, the NCP, and other federal environmental impact evaluation requirements, selecting a remedial action with feasible mitigation measures and provision for public review is designed to ensure that the proposed action provides for short- and long-term protection of the environment and public health. Hence, CERCLA performs the same function as, and is functionally equivalent to, the state's requirements under CEQA.

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3A (<i>cont.</i>)	--	--	<p>e. To meet CEQA and SF PUC requirements for natural stormwater treatment requirements, the proposed containment cap will need to support a system of naturalistic (compatible with parkland esthetics and stormwater treatment requirements) grassland and seasonal wetland treatment swales draining to the Bay.</p> <p>f. Arc Ecology has proposed a concept design for native grasslands that integrate with <i>and strengthen</i> the proposed containment cap while providing a network of grassland stormwater treatment swales with intermixed small, shallow winter-ephemeral pools that provide important wildlife habitat and stormwater treatment functions required for CEQA mitigation.</p> <p>g. Lennar and the Sierra Club and Golden Gate Audubon have reached an agreement that would fund the development of such a system. The swale design is compatible with, and enhances, impermeable clay liner (cap) designs (see 3, below).</p> <p>h. The proposed small (approximately 2-3 feet diameter), shallow temporary winter wet pools (approximately 6-12 inches deep for weeks following storm events) are placed within the natural swale drainage network and provide engineered stability points that inhibit incision into the underlying containment cap, and improve trapping of fine sediment and contaminants, and other stormwater treatment functions.</p> <p>i. Failure to plan for drainage channel incision by inclusion of engineered “stability nick points” like the proposed shallow pools would likely result in uncontrolled incision and erosion into the containment cap.</p>	<p>As described on the previous page, CEQA is not an ARAR for CERCLA actions.</p> <p>The Navy does not agree with the reviewer’s assertion that the proposed remedial alternatives in the Draft Final FS do not comply with ARARs. Section 5 of the Draft Final FS Report states that the proposed remedial alternatives would comply with potential ARARs identified in Appendix B. Please refer to the response to CCSF specific comment 8 regarding minor clarifications to the Final FS Report that were necessary to align the proposed containment alternatives with CCSF’s plans to construct stormwater management systems.</p> <p>As stated in the response on the previous page, Section 3.3.2.1.7 of the Draft Final FS states that the Navy will continue to work closely with SFRA and other stakeholders to align the remedial alternatives for Parcel E with SFRA’s redevelopment project to the maximum extent practical. However, as stated in the response on the previous page, CEQA is not an ARAR for CERCLA actions.</p> <p>The Navy wishes to clarify that, as described in Section 4 of the Draft Final FS Report, the proposed remedial alternatives do not identify an impermeable clay liner. As shown on Figure 4-1, a soil cover without a liner is proposed across over 50 acres in Parcel E. Liners are proposed in two relatively small areas in IR-02 Northwest and IR-03.</p> <p>The Navy believes that the remedial alternatives in the Draft Final FS Report are adequately developed to support an informed risk management decision using the NCP evaluation criteria. The conceptual designs presented in the FS Report will be further refined in the RD and, as previously stated, will accommodate CCSF’s plans to construct stormwater management systems.</p>

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3A (<i>cont.</i>)	--	--	<p>j. The Draft Final FS should acknowledge the CEQA requirements for the construction of grasslands and the incorporation of a natural stormwater treatment system by specifically incorporating the concept design approach developed by Arc Ecology into the Draft Final FS.</p> <p>k. The assemblage of native perennial grass and sedge meadows proposed by Arc-Ecology would increase stability of the proposed Parcel E fine-grained containment cap. The grass roots would provide root strength to the cap soils and significantly reduce the potential for incision or erosion into the underlying soils. The native grassland/sedge meadow would also minimize maintenance requirements, fertilizer use, and maximize wildlife habitat and compatible recreation benefits. The use of appropriate native grasses and their role in enhancing the containment cap should be adopted in the final FS.</p>	Please refer to the response on the previous page.

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3A (<i>cont.</i>)	--	--	<p>1. We believe that the Arc Ecology conceptual design is fully compatible with clay liners of “engineered alternative caps “ that the FS determined was “Retained for areas with elevated concentrations of mobile chemicals that are not paved or do not require paving to achieve planned land uses. Effective; easy to moderate implementability.” (table ES-2, p. 49 pdf, etc.).</p> <p>i. The level of detail in the FS regarding the scope of engineered alternative caps and surface drainage of finished landscapes in the context of park lands essential for other ARARs (CEQA mitigations for grassland habitats, raptors, parklands, stormwater treatment wetland swales, etc.) is insufficient to demonstrate an adequate extent of compatibility or “implementability”.</p> <p>ii. We believe that engineering design variables, such as type, thickness, and compaction of clay liners in relation to constructed topographic relief and drainage, would, with further study, demonstrate the compatibility of the Arc Ecology conceptual design.</p> <p>iii. We recommend that the FS explicitly acknowledge the Arc concept design currently agreed to by Audubon, Sierra Club and Lennar. This concept design will be further developed to ensure design compatibility with the FS requirements and stormwater treatment and other ARARs.</p>	<p>As previously stated in this response:</p> <ul style="list-style-type: none"> As described in Section 4 of the Draft Final FS Report, the proposed remedial alternatives do not identify an impermeable clay liner. As shown on Figure 4-1, a soil cover without a liner is proposed across over 50 acres in Parcel E. Liners are proposed in two relatively small areas in IR-02 Northwest and IR-03. Section 3.3.2.1.7 of the Draft Final FS (1) acknowledges the ecological goals established by SFRA and (2) states that the Navy will continue to work closely with SFRA and other stakeholders to align the remedial alternatives for Parcel E with SFRA’s redevelopment project to the maximum extent practical. However, as stated in the response on the previous page, CEQA is not an ARAR for CERCLA actions. The proposed remedial alternatives are compatible with the future reuses identified in the SFRA’s amended HPS Redevelopment Plan (SFRA, 2010b). Section 5 of the Draft Final FS Report states that the proposed remedial alternatives would comply with potential ARARs identified in Appendix B. The Navy identified and evaluated potential ARARs for the remedial alternatives at Parcel E in accordance with CERCLA and the NCP. The proposed remedial alternatives are adequately developed to support an informed risk management decision using the NCP evaluation criteria. The conceptual designs presented in the FS Report will be further refined in the RD and will accommodate CCSF’s plans to construct stormwater management systems.

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3B	--	--	<p><u>Comments on the Proposed Shoreline Revetment Alternatives</u></p> <p>a. We agree that it would be infeasible for any one alternative proposal reviewed in the FS as a “stand-alone option” (App D and table 3-6) to satisfy both engineering stability and multiple ARAR requirements for Bay Plan and CEQA criteria (shoreline esthetics, recreation, wildlife, ecological functions, etc.).</p> <p>b. The FS falls short, however, in identifying viable variations of the feasible preferred shoreline “hybrid” protection alternative (natural shoreline materials with underlying armor, rip-rap shoreline armoring) that would maximize both protection and future shoreline values compatible with the Bay Plan (BCDC) and redevelopment objectives and ARARs.</p> <p>c. The basic design assumptions of the armor and geotextile liner with natural materials cap would be compatible with a wide range of shoreline treatments that would further reduce incident wave height (wave energy dissipation), erosion potential, sea level rise adaptation.</p> <p>d. The constraints of “stand alone” soft shoreline alternatives such as beach nourishment (sand fill) and aquatic vegetation (eliminated as ‘stand alone’ options, Table 3-6) are overcome if such measures are combined with the “hybrid” protection alternative and, in fact, such an augmented alternative, as proposed by Arc Ecology, et.al., will provide increased shoreline protection.</p>	<p>The Navy evaluated an appropriate range of shoreline protection technologies and process options in Appendix D of the Draft Final FS Report. This evaluation concluded that the most viable shoreline protection options for the Parcel E shoreline are armoring (rock revetment) and hybrid stabilization using natural shoreline materials with underlying rock armor. Section 4.2.2.3 of the Draft Final FS Report identifies a conceptual design for implementing these two options along different sections of the Parcel E shoreline.</p> <p>As stated in the response to general comment 2A, the proposed remedial alternatives presented in the Draft Final FS Report are compatible with the future reuses identified in the SFRA’s amended HPS Redevelopment Plan (SFRA, 2010b).</p> <p>The Navy does not agree with the reviewer’s assertion that the proposed shoreline armoring does not comply with ARARs. Potential ARARs for shoreline construction were identified in Appendix B and then analyzed in Appendix D. As stated in Section D5.3 of Appendix D, the proposed shoreline protection for Parcel E complies with the substantive provisions of the pertinent ARARs, including the federal Clean Water Act § 404 and the state McAteer-Petris Act and San Francisco Bay Plan.</p> <p>The Navy believes that the recommended hybrid stabilization option will be protective of human health and the environment and does not need to be supplemented with either beach nourishment or aquatic vegetation, as suggested by the reviewer. However, the Navy acknowledges that such additional measures could be implemented by the CCSF during redevelopment in a manner that is consistent with the Navy’s performance objectives.</p>

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3B (cont.)	--	--	<p>e. The shoreline alternatives described do not meet the requirements of the City of San Francisco and Lennar under CEQA (project EIR dated 11-12-09) for a “living” shoreline.</p> <p>i. The FS shoreline analysis (Appendix D) is limited to wave energy and the erosion potential of the existing shoreline and nearshore, and the armoring of existing shoreline profiles, but it fails to model and evaluate feasible alternatives that incorporate shoreline profile sand nourishment <u>in combination with</u> armoring designs.</p> <p>ii. The “naked” armoring alternatives, by themselves, conflict with multiple ARARs (under multiple agency jurisdiction) for shoreline access, esthetics, recreation, wildlife, water quality, and planned parkland uses.</p> <p>f. Arc-Ecology has developed and presented a shoreline design for locations on Parcel E that meet the Navy’s criteria for lower shoreline gradients suitable for the “hybrid shoreline stabilization” alternative.</p> <p>i. The Arc design provides reliable protection to the shoreline while providing a unique habitat type and stormwater treatment within a back-barrier lagoon system.</p> <p>ii. The proposed design is additive in that it will work with and improve the shoreline protection provided by the Navy’s proposed underlying rock armor system.</p> <p>iii. We believe that the rock underlayer is not necessary to provide for erosion protection to the system in the context of our proposed back-barrier lagoon/living beach system.</p>	<p>Please refer to the responses on the previous page regarding the Navy’s disagreement with the reviewer’s assertions that the proposed shoreline armoring does not comply with ARARs. The Navy believes it has provided adequate information to refute these assertions. Also, please refer to the responses on the previous page regarding the Navy’s position that it is not necessary to evaluate sand nourishment in combination with armoring.</p> <p>Based on the presentation held on March 15, 2011, the Navy understands that Arc Ecology’s preliminary design concept for the proposed back-barrier lagoon system uses an offshore reef to dissipate wave energy. The Navy evaluated a hybrid stabilization option using an offshore reef but concluded that it was not the most viable option because of its uncertain effectiveness and its significant implementation challenges. However, as stated in Section 3.3.2.1.7 of the Draft Final FS: “<i>The Navy acknowledges the increased ecological function that the offshore reef option would provide relative to the other two options, and that such enhancements may be important to satisfy the ecological goals established by SFRA as part of their redevelopment project (SFRA, 2009). The Navy will continue to work closely with SFRA and other stakeholders to align the remedial alternatives for Parcel E with SFRA’s redevelopment project to the maximum extent practical.</i>”</p> <p>In addition, Section 4.2.2.3 of the Draft Final FS Report states that the conceptual design may be refined in the RD based on additional site information or stakeholder input, but it must continue to satisfy the RAOs (identified in Section 3.1.2 of the FS Report) and provide equivalent (or improved) performance relative to effectiveness, implementability, and cost. The Navy believes that this discussion is adequate acknowledgement of the CCSF’s proposed redevelopment of the Parcel E shoreline.</p>

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3B (<i>cont.</i>)	--	--	<p>iv. Nevertheless, even if the Navy insists that a back-barrier lagoon/living beach system is not adequate by itself for protecting the shoreline the FS should acknowledge that a back-barrier lagoon system would be compatible with other remedies since a back-barrier lagoon system will not detract from the protective elements of other remedies. In fact, the back-barrier lagoon/living beach system will, as stated above, reinforce the protections provided by the Navy's "hybrid shoreline stabilization" alternative.</p> <p>g. Since the City and Lennar have agreed to pay for back-barrier lagoon/living shoreline system, thus removing that cost from the Navy's remediation budget,</p> <p>h. We urge the Navy to incorporate the back-barrier lagoon/living beach system into the "hybrid shoreline stabilization" alternative and adopt that alternative in the final Proposed Action.</p> <p>i. The living shoreline design would offset some of the hard armor costs since the reduced wave run-up and wave energy at the landward edge of a sandy wide shelf and a shell-gravel barrier beach is significantly less than the significant wave height calculated for "existing" open water and steep nearshore.</p> <p>ii. Incorporating the living shoreline would therefore result in lower costs and better results with altered assumptions of designs compatible with redevelopment and ARARs in CEQA.</p>	<p>The Navy agrees that a back-barrier lagoon system could be implemented by the CCSF during redevelopment in a manner that supplements the Navy's proposed shoreline protection measures. However, the Navy believes that it has correctly evaluated the offshore reef necessary to construct the back-barrier lagoon. Specifically, the uncertain effectiveness and significant implementation challenges associated with an offshore reef support the Navy's decision to not include this structure in the proposed hybrid stabilization option.</p> <p>In addition, as stated in the response to general comments 2B and 3A, CEQA is not an ARAR for CERCLA actions.</p>

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1	3-19	3.2.3.1	<p>Page 3-19 Shoreline Protection: — The FS statement that “construction of shoreline protection would require dredging of the shoreline” is only correct for the construction of “naked” rock revetment systems without amendment by addition of sand beach platforms or berms.</p> <ul style="list-style-type: none"> The inclusion of sand beach shoreline platforms and berms (including barrier beach shoreline profiles) constructed on top of the existing ground surface would not require dredging for construction, and would reduce the incident wave energy affecting the revetment. 	<p>The subject statement is correct because, as described in Section 3.3.2.1.7 and Appendix D, (1) excavation is necessary to ensure that shoreline sections protected with hybrid stabilization are gradually sloped; (2) excavation will remove contaminated sediment that poses a potential risk to humans and wildlife; and (3) excavation and associated backfilling will minimize the volume of fill placed within the intertidal shoreline zone, in accordance with Part IV of the San Francisco Bay Plan (whereas fill placed directly on the existing ground surface would increase the net fill volume and result in a net loss of bay).</p>
2	3-20	3.2.3.1	<p>Page 3-20: “Navy plans to mitigate for the loss of wetlands at Parcel E using on-site compensatory mitigation to be implemented in conjunction with the remedy for Parcel E-2 (Shaw, 2009)”.</p> <ul style="list-style-type: none"> The proposed Shaw wetlands are inadequate mitigation for the loss of wetlands on Parcel E. The proposed Shaw freshwater wetland is a steep-sided pond behind a high berm set-back isolated from shore-fringing tidal wetlands. On the landscape, it will appear as a drawdown stock pond or reservoir, and its ecological and esthetic functions will be impaired by excessively steep and uniform slopes. The final Shaw plan following response to comments still places the compensatory mitigation salt marsh in the form of a fringing marsh along a shoreline within a local wave climate that has been shown to be too erosional for unprotected salt marsh – in fact, the marsh, itself, is mitigation for the rock revetment designed to address the local wave energy climate. 	<p>The Navy does not agree with the reviewer’s assertion that the proposed wetlands mitigation on Parcel E-2 is not adequate. Over the past 5 years, the Navy has worked collaboratively with the BCT, CCSF, and other project stakeholders to develop a mitigation approach that addresses the unavoidable wetlands loss at Parcels B, E, and E-2. The results of this effort were published in the Final WMMP (Shaw, 2009b) and summarized in the Final RI/FS Report for Parcel E-2 (ERRG and Shaw, 2011). Draft and draft final versions of both documents were reviewed by the BCT, CCSF, and other project stakeholders, including Arc Ecology. The Navy responded to all comments received on the draft and draft final versions of both documents and incorporated input from various reviewers, as appropriate, into the final versions. The Navy believes that this effort is adequate to support the Navy’s evaluation of remedial alternatives for Parcels E and E-2. The wetlands design will be refined, as appropriate, during the RD for Parcel E-2; however, the Navy does not agree with the reviewer’s assertion that the wave climate offshore of the proposed tidal marsh is “too erosional” and believes that the current conceptual design will be effective in the long-term.</p>

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2 (<i>cont.</i>)	3-20	3.2.3.1	<ul style="list-style-type: none"> Therefore, we believe that the tidal marsh design should anticipate the need for a wave barrier at this location, based on the Battelle analysis. If marsh erosion is treated with “adaptive management” after-the-fact for what is in fact predictable erosion, the result will be more rock placed in salt marsh, which defeats the basic purpose of the mitigation. Note that the proposed Arc-Ecology beach and lagoon system would be ideally located at Parcel E2 where it could provide for a natural self-sustaining habitat while protecting the sediment and landfill at Parcel E2. Note that there is an existing beach at this location that has been stable under several years of the local wind-wave energies at the Site and therefore provides a local reference site to guide future site habitat designs that could be used by the Navy consultants. This should be utilized in the next FS iteration. 	The Navy does not agree with the reviewer’s assertion that the wave climate offshore of the proposed tidal marsh requires a wave barrier and believes that the current conceptual design will be effective in the long-term.
3	3-41	3.3.2.1.7	<p>Page 3-41: The FS does not evaluate the proposed Arc Ecology plan for a back-barrier lagoon system.</p> <ul style="list-style-type: none"> Lennar, in conjunction with the Sierra Club and Audubon have reached an agreement to fund the implementation of such a system and has presented Navy staff and consultants with conceptual plans for such a system that would significantly increase wave energy attenuation (reduce wave erosion potential on engineered shoreline armoring) while satisfying multiple CEQA mitigation requirements (ARARs) that are otherwise unmet in the FS. 	Please refer to the responses to general comments 2B and 3B. In addition, as stated in the response to general comment 3A, the Navy’s CERCLA cleanup decisions are not subject to CEQA.

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3 <i>(cont.)</i>	3-41	3.3.2.1.7	<ul style="list-style-type: none"> Without the Arc Ecology “soft” shoreline amendment of the proposed boulder armoring of the shoreline, the proposed alternatives fail to meet multiple CEQA mitigation requirements (i.e., they conflict with ARARs) and therefore make the proposed designs infeasible. Since the Arc Ecology shoreline designs are additive to the FS proposed alternative, and are funded, their feasibility should be assessed in final alternatives. 	<i>(see above)</i>
4	3-41	3.3.2.1.7	We believe the Arc Ecology proposal fits in with the general “hybrid shoreline stabilization” alternative that was described as “...an effective containment system...”, we recommend this alternative description be revised to more explicitly describe the Arc Ecology proposal. The location of the proposed Arc Ecology natural beach system (not the Shaw mitigation site-see appendix A for location) is at an area already determined by the Navy to be gradual and wide and therefore acceptable for hybrid beach solutions.	Please refer to the responses to general comments 2B and 3B.
5	3-41	3.3.2.1.7	<p>Page 3-41: The Draft FS acknowledges that the rock armoring would prevent safe public access to the shoreline.</p> <ul style="list-style-type: none"> The FS should clarify the specific significant adverse impacts of boulder revetments in a public park land use context: boulder armored shorelines are likely to create public nuisances of safety hazards and esthetics, eliminate water quality functions and wildlife functions of sand beaches, and create other nuisances such as habitat for Norway rats. These impacts cause significant conflicts with multiple ARARs in multiple jurisdictions. The statement that “the Navy will continue to work closely with SFRA and other stakeholders to align remedial alternatives...to the extent possible” is too weak and vague to provide meaningful feasibility analysis, and is largely symbolic or token language rather than feasibility assessment. 	The Navy does not agree with the reviewer’s assertion that the rock revetment will cause “significant adverse impacts.” The Navy believes that it has correctly evaluated the rock revetment option in Appendix D. Specifically, the disadvantages of rock revetment (limiting pedestrian access and shoreline recreation and having limited aesthetic value) are outweighed by the fact that it would provide a robust containment system that is readily implementable and is the most cost-effective of the three shoreline protection options. As noted in the response to general comment 3A, CEQA is not a CERCLA ARAR and the Navy’s CERCLA cleanup decisions are not subject to CEQA. Nonetheless, the Navy has coordinated its investigations and this FS with the SFRA in order to adequately consider the redevelopment plan and future land use.

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Comments provided by Saul Bloom, dated November 18, 2011 (continued)				
Specific Comments				
5 (cont.)	3-41	3.3.2.1.7	<ul style="list-style-type: none"> The sentence should be rewritten to require the Navy to perform additional technical feasibility analysis to develop alternative designs that harmonize shoreline erosion and containment requirements and multiple ARARs in consultation with qualified experts in the analysis and design of engineered estuarine beach systems. The feasibility assessment objective should be to develop a shoreline alternative that meets ARAR objectives including public access and habitat to the extent feasible. 	Potential ARARs for shoreline construction were identified in Appendix B and then analyzed in Appendix D. As stated in Section D5.3 of Appendix D, the proposed shoreline protection for Parcel E complies with the substantive provisions of the pertinent ARARs, including the federal Clean Water Act § 404 and the state McAteer-Petris Act and San Francisco Bay Plan.
6	--	--	<p>Note that there are natural analogues for estuarine fringing and barrier beach systems in San Francisco Bay, including existing and historical examples right at the Hunters Point site.</p> <ul style="list-style-type: none"> Recent Navy shoreline enhancement projects based on coarse sand beach nourishment have developed and are successfully combating site wind-wave conditions <u>without</u> erosion into underlying sediments. These projects provide on-site evidence that validates the presumption of the feasibility of estuarine beach construction and should be used to guide subsequent design efforts. 	The Navy believes that the recommended hybrid stabilization option will be protective of human health and the environment and does not need to be supplemented with either beach nourishment, as suggested by the reviewer. However, the Navy acknowledges that such additional measures could be implemented by the CCSF during redevelopment in a manner that is consistent with the Navy's performance objectives.
7	Table 3-6	3	<p>Section 3, Table 3-6: The shoreline stabilization (nonstructural) section includes statements that sand fills and shoreline nourishment are unable to withstand the site's wave energy environment.</p> <ul style="list-style-type: none"> This is inconsistent with on-site evidence of successful placement by the Navy of coarse beach sand and formation of erosion-buffering beaches on top of engineered rock armored shorelines on the south-facing shore of Hunters Point. 	As described in Section D3.3 of Appendix D, shoreline nourishment typically involves constructing a wider shoreline and more substantial dune to (1) act as a protective buffer between upland structures and the water and (2) provide a sediment source that would aid in dissipating wave energy if sediment eroded during a storm and moved offshore. The Navy's past shoreline restoration efforts have not involved constructing a wider shoreline or substantial dune. Rather, as stated in Section D3.2 of Appendix D, restoration efforts have consisted of natural shoreline materials with an underlying rock armor.

**Table 5. Responses to Comments from Arc Ecology on the
Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011**

Comment #	Page #	Section	Comment	Response
Comments provided by Saul Bloom, dated November 18, 2011 (continued)				
Specific Comments				
7 (cont.)	Table 3-6	3	<ul style="list-style-type: none"> Thus these statements appear to be out of date with existing conditions that include Navy-constructed beaches. These statements should be corrected. We believe that a review of multiple bay beach reference sites (including the Hunters Point site) would demonstrate that natural beach systems within San Francisco Bay are able to form and persist in the long term in more exposed, severe wind-wave energy climates than those of Hunters Point. See comments below under review of Appendix D for more details. 	The Navy believes that it has correctly evaluated the shoreline nourishment technology in Appendix D. Specifically, the shoreline nourishment technology was not retained for further analysis because (1) it would not meet the RAOs (identified in Section D2.6 of Appendix D) and (2) the Parcel E shoreline is narrow and no area would be adequate to create a wider shoreline without substantial excavation.
8	4-5 to 4-6	4.2.2.3	<p>Page 4-5 to 4-6: The proposed hybrid design contains many of the same elements as the Arc Ecology proposal but does not include the proposed coastal lagoon and back barrier beach concept.</p> <ul style="list-style-type: none"> Note that the underlying rock armor is not required for the beach and lagoon system. However, the proposed Arc Ecology lagoon and gravel beach design can work with an underlying armoring system because it is an additive system. However, under the Arc Ecology scenario the costs associated with the excavation and grading to achieve an underlying rock are not required. The Navy's design could be an underlying armor "base" for the soft shoreline design proposed by Arc Ecology, consisting of a beach platform sand fill that creates a more gently shelving wave-dissipating nearshore and shoreline, eliminating or reducing the constraints of existing slopes, and adds the additional storm wave "buffering" capacity of a resilient shell-gravel barrier beach rolling over a sand platform. 	Please refer to the responses to general comments 2B and 3B.
9	--	--	The Navy "need" for rip-rap is perfectly compatible with any other natural sediment and vegetation placed on top of it; armor is always available as an ultimate (unseen hard) barrier to erosion and the living shoreline is on top of this barrier.	Please refer to the responses to general comments 2B and 3B.

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Comment #	Page #	Section	Comment	Response
Comments provided by Saul Bloom, dated November 18, 2011 (continued)				
Specific Comments				
10	--	App. B	Appendix B does not directly evaluate the proposed Arc Ecology coastal lagoon and gravel back barrier beach design. This should be evaluated during the final document preparation.	Please refer to the responses to general comments 2B and 3B.
11	D-12	App. D	<p>Appendix D (page D-12). Note that a significant wave height of 2.3 feet (developed by the Battelle study) is relatively small and is a function both of local water depth and wave fetch.</p> <ul style="list-style-type: none"> The study does not provide a context for significant wave height in relation to existing coarse clastic shorelines (persistent old sand and gravel beaches) in San Francisco Bay. Sand, gravel and shell beaches have existed with dynamic stability in more exposed settings than Hunters Point (larger significant wave height of long fetch across wide and deepwater reaches of San Francisco Bay such as Angel Island, Red Rock Island, East Marin Island, Radio Beach, Brisbane Spit). By the flawed analysis of the FS report, stable bay beaches would not exist anywhere around the bay as they do at many locations with wave fetches and significant wave heights greater than 2.3 feet. Many of the stable reference beach sites, surveyed for design of a natural beach project designed by the Arc-Ecology consulting team, have much longer wind fetches and hence greater significant wave heights than at the Hunters Point site. Appendix D does not contain an informed analysis of natural beach systems as a stable shoreline stabilization alternative and should be updated by experts in these types of systems. 	The Navy does not agree with the reviewer's assertion that the shoreline protection analysis is "flawed." The Navy believes that the existing information, which includes measurements of wave height offshore of Parcel E during winter storms, is adequate to evaluate the shoreline protection options in the FS Report in accordance with the NCP. As stated in Section 4.2.2.3 of the Draft Final FS Report, the conceptual shoreline protection design may be refined in the RD based on additional site information or stakeholder input, but it must continue to satisfy the RAOs (identified in Section 3.1.2 of the FS Report) and provide equivalent (or improved) performance relative to effectiveness, implementability, and cost.

**Table 5. Responses to Comments from Arc Ecology on the
Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011**

Comment #	Page #	Section	Comment	Response
Comments provided by Saul Bloom, dated November 18, 2011 (<i>continued</i>)				
Specific Comments				
12	--	--	<p>The design of natural beach systems is a function of the grain size and slope in relation to wave energy. Coarse beach sediments can be designed to resist much higher wave energies than wave energy levels found in SF Bay. The FS failed to analyze the feasibility of coarse-grained (gravel, shell, coarse sand) beaches to provide supplemental wave energy buffering functions to armored shoreline protection. There are many Pacific coast precedents of resilient engineered bay beaches that are adapted to greater significant wave heights than those estimated for Hunters Point.</p> <ul style="list-style-type: none"> For example, the State of Oregon built a natural cobble beach system at Cape Lookout on the Pacific Coast in 2005 in a direct coastal environment which successfully worked during the large winter storms of 2006 with significant wave heights of <u>8.2 meters</u> (approx. 27 feet) without any significant erosion. This project was designed by the State Coastal geomorphologist Jonathan Allan and Professor Paul Komar of Oregon State, one of the leading coastal engineers in the profession. Professor Mark Lorang of the University of Montana has built several miles of natural beach system at Flathead Lake in Montana, a deep glacial lake with significant wave height greater than the Hunters Point site and his beaches have been very stable and have successfully protected miles of eroding shoreline with more success than rock riprapped shore created by typical engineering firms. Professor Lorang served as a technical peer reviewed for the soft-engineering estuarine beach design developed for the Aramburu Island shoreline enhancement in Richardson Bay, Tiburon completed in September 2011. This demonstration project built a naturalistic beach at locations with wave fetches (and thus wave heights) in excess of the South Basin site. 	<p>Sections D4.2.1 and D4.4.1 specify conceptual designs for the options involving rock armor. Specifically, the conceptual designs specify (in accordance with established engineering guidance) that 75- and 25-pound rocks are necessary to effectively withstand the design wave height and planned shoreline slopes. The 75- and 25-pound rocks identified are much larger than the coarse-grained material identified by the reviewer. The Navy believes that this engineering design approach will ensure that the shoreline protection features meet the established RAOs and are effective in the long-term.</p> <p>The Navy does not believe that observations from other coastal locations are an adequate basis to develop shoreline protection that meets the established RAOs and is effective in the long-term. In particular, the reviewer's implication that coastal beach conditions are appropriate design bases for Parcel E ignores the fact that the shoreline protection is part of a larger containment alternative that is proposed to protect humans and wildlife from exposure to hazardous substances. The site conditions at Parcel E require development of a robust shoreline protection approach to prevent potential exposure to hazardous substances, and erosion rates that may be considered acceptable at coastal beaches are not likely to be acceptable at Parcel E.</p>

Table 6. Responses to Comments from Golden Gate Audubon Society and Sierra Club on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

Comment #	Page #	Section	Comment	Response
Comments provided by the Sierra Club (Arthur Feinstein) and Golden Gate Audubon Society (Mike Lynes), dated November 30, 2011				
General Comments				
1	--	--	We are submitting comments on the Hunters Point Draft Final Parcel E Draft Feasibility Study on behalf of the San Francisco Bay Chapter of the Sierra Club and the Golden Gate Audubon Society. Our organizations have long been involved in the protection of the environment and the community in the Bayview-Hunters Point area. We believe that the draft Feasibility Study must be improved before it is finalized.	Comment acknowledged.
2	--	--	As an initial matter, we are concerned that the draft Feasibility Study is inconsistent with site features mandated by the ARRA, the final Environmental Impact Report (FEIR) for the project, and the 2010 Settlement Agreement between the City of San Francisco and Sierra Club/Golden Gate Audubon. Specifically, the Settlement Agreement called for (1) a naturalistic storm water swale system, (2) a living shoreline beach, and (3) a lagoon system. These inconsistencies can be rectified by amending the Feasibility Study's alternatives to incorporate the project modifications as identified in the Arc Ecology letter dated September 17, 2011. These modifications include a naturalistic storm water treatment system, a living shoreline, and a lagoon following the designs submitted by Arc Ecology.	<p>The Navy does not agree with the reviewer's assertions. Each of the development alternatives evaluated in the SFRA's⁶ Final EIR (SFRA, 2010a), except for Alternative 1 (which evaluated no new development), included a parks and open space area along the Parcel E shoreline. Upon completion of the CCSF's review process, the SFRA amended its HPS Redevelopment Plan (SFRA, 2010b) to reflect the selected development alternative. The proposed remedial alternatives presented in the Draft Final FS Report are compatible with the future reuses identified in the amended plan. The CCSF has reviewed and commented upon the Draft Final FS Report and, based on their comments (see Table 4 in this appendix), the CCSF concurs with the Navy's position on this matter.</p> <p>Although the Navy's CERCLA cleanup decisions are not subject to CEQA, CEQA is not a CERCLA ARAR, and the Navy is not a party to or legally bound by the settlement agreement, the Navy has made extensive efforts to consider and address the SFRA's amended HPS Redevelopment Plan in the FS Report. The Navy does not agree with the reviewer's assertion that the remedial alternatives presented in the Draft Final FS Report are inconsistent with the amended HPS Redevelopment Plan.</p>

⁶ [Acronyms and abbreviations](#) are defined at the end of this appendix (following Table 6).

Table 6. Responses to Comments from Golden Gate Audubon Society and Sierra Club on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

Comment #	Page #	Section	Comment	Response
Comments provided by the Sierra Club (Arthur Feinstein) and Golden Gate Audubon Society (Mike Lynes), dated November 30, 2011 <i>(continued)</i>				
General Comments				
2 (cont.)	--	--	(see above)	<p>On March 15, 2011, Navy staff attended a meeting hosted by CCSF and Lennar that included a presentation from Mr. Roger Leventhal and Dr. Peter Baye (Arc Ecology, 2011). Mr. Leventhal and Dr. Baye, under contract to Arc Ecology, presented a preliminary design concept to the parties in attendance, which included representatives from the BCT, CCSF, and other project stakeholders. Mr. Leventhal and Dr. Baye discussed their preliminary design concept relative to the Navy's preliminary concepts for protecting the Parcel E shoreline, as presented to the BCT, CCSF, and other project stakeholders in January 2011 (Navy, 2011). On page 8 of the Arc Ecology presentation, it was stated by the presenters that "<i>our plan works with (and we believe enhances) Navy proposals.</i>"</p> <p>Based on this information, the Navy believes that it has worked collaboratively with interested stakeholders to ensure that the proposed remedial alternatives for Parcel E are compatible with future development plans.</p>

Table 6. Responses to Comments from Golden Gate Audubon Society and Sierra Club on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

Comment #	Page #	Section	Comment	Response
Comments provided by the Sierra Club (Arthur Feinstein) and Golden Gate Audubon Society (Mike Lynes), dated November 30, 2011 <i>(continued)</i>				
General Comments				
3	--	--	We are also concerned with the Feasibility Study's discussion of the Parcel E containment cap(s). First, we found the discussion to be too vague to fully assess whether the alternatives would comply with all applicable requirements, including those laid out in the FEIR, as well as those required by state and federal laws. The Feasibility Study would be improved with an expanded discussion of the specific requirements that the caps must meet and addressing how each of those requirements is fulfilled.	The Navy believes that the remedial alternatives in the Draft Final FS Report are adequately developed to support an informed risk management decision using the NCP evaluation criteria. As stated in the response to comment 2, the proposed remedial alternatives are compatible with the future reuses identified in the SFRA's amended HPS Redevelopment Plan (SFRA, 2010b). Section 5 of the Draft Final FS Report states that the proposed remedial alternatives would comply with potential ARARs identified in Appendix B. The Navy identified and evaluated potential ARARs for the remedial alternatives at Parcel E in accordance with CERCLA and the NCP.
4	--	--	The Feasibility Study fails to identify that some of the specific requirements described as mitigations in the FEIR are also requirements of the Settlement Agreement. Specifically, the FS alternatives should discuss (1) the construction of approximately 80 acres of native grasslands on Parcels E and E2 combined, (2) the development of raptor foraging habitat and the creation of a storm water treatment system or bioswale. Given the terms of the Settlement Agreement, the FS should include an alternative that analyses Arc Ecology's submitted designs that were designed to address these FEIR and settlement requirements.	As described in the response to comment 2, the Navy's CERCLA cleanup decisions are not subject to CEQA, CEQA is not a CERCLA ARAR, and the Navy is not a party to or legally bound by the settlement agreement.

Table 6. Responses to Comments from Golden Gate Audubon Society and Sierra Club on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

Comment #	Page #	Section	Comment	Response
Comments provided by the Sierra Club (Arthur Feinstein) and Golden Gate Audubon Society (Mike Lynes), dated November 30, 2011 <i>(continued)</i>				
General Comments				
5	--	--	We are particularly concerned about the lack of discussion of native grasslands and a storm water drainage system because the cap will have to be designed to accommodate for these project characteristics. Failure to account for these design features during the alternative assessment, design and implementation phases will result in the incomplete or ineffective implementation of the native grassland, seasonal wetland, and bioswale features. We direct your attention to the comments provided by Arc Ecology on these points for a more technical discussion of how these naturalistic design features are fully compatible with and would even improve the clay cap. (See Comments from Arc Ecology, at p. 3-4)	Section 3.3.2.1.7 of the Draft Final FS (1) acknowledges the ecological goals established by SFRA and (2) states that the Navy will continue to work closely with SFRA and other stakeholders to align the remedial alternatives for Parcel E with SFRA's redevelopment project to the maximum extent practical. However, as stated in the responses to comment 2, the Navy's CERCLA cleanup decisions are not subject to CEQA, CEQA is not a CERCLA ARAR, and the Navy is not a party to or legally bound by the settlement agreement. The Navy believes that the remedial alternatives in the Draft Final FS Report are adequately developed to support an informed risk management decision using the NCP evaluation criteria. The conceptual designs presented in the FS Report will be further refined in the RD and, as previously stated, will accommodate CCSF's plans to construct stormwater management systems.
6	--	--	The Project FEIR requires that a "living shoreline" be designed in conjunction with the shoreline armoring and other requirements. The feasibility analysis should include consideration of sand nourishment in conjunction with armoring and other management schemes. We believe that just armoring the shoreline conflicts with the ARRA reuse plans and the FEIR for the project. Specifically, armoring will restrict public access to the shoreline and will not significantly benefit wildlife.	<p>The Navy evaluated an appropriate range of shoreline protection technologies and process options in Appendix D of the Draft Final FS Report. This evaluation concluded that the most viable shoreline protection options for the Parcel E shoreline are armoring (rock revetment) and hybrid stabilization using natural shoreline materials with underlying rock armor. Section 4.2.2.3 of the Draft Final FS Report identifies a conceptual design for implementing these two options along different sections of the Parcel E shoreline.</p> <p>As stated in the response to comment 2, the proposed remedial alternatives presented in the Draft Final FS Report are compatible with the future reuses identified in the SFRA's amended HPS Redevelopment Plan (SFRA, 2010b). The Navy believes that the recommended hybrid stabilization option will be protective of human health and the environment and does not need to be supplemented with sand nourishment, as suggested by the reviewer.</p>

Table 6. Responses to Comments from Golden Gate Audubon Society and Sierra Club on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

Comment #	Page #	Section	Comment	Response
Comments provided by the Sierra Club (Arthur Feinstein) and Golden Gate Audubon Society (Mike Lynes), dated November 30, 2011 <i>(continued)</i>				
General Comments				
6	--	--	<i>(see comment above)</i>	<p>However, the Navy acknowledges that such additional measures could be implemented by the CCSF during redevelopment in a manner that is consistent with the Navy's performance objectives.</p> <p>The Navy believes that it has correctly evaluated the rock revetment option in Appendix D. Specifically, the disadvantages of rock revetment (limiting pedestrian access and shoreline recreation and having limited aesthetic value) are outweighed by the fact that it would provide a robust containment system that is readily implementable and is the most cost-effective of the three shoreline protection options.</p>
7	--	--	Of most concern to us is the Feasibility Study's failure to discuss the "backbarrier lagoon" feature proposed by Arc Ecology, Sierra Club, and Golden Gate Audubon and agreed to and funded by Lennar through the Settlement Agreement. Specifically, we believe that the backbarrier lagoon will provide increased shoreline protection, as well as a vibrant natural environment that will benefit the community, water quality, and wildlife. We believe that this lagoon system should be included as a preferred alternative in the Final FS. In any event, the Feasibility Study should at least be revised to discuss the feasibility of the lagoon and proposed by Arc Ecology.	<p>Based on the presentation on March 15, 2011, the Navy understands that Arc Ecology's preliminary design concept for the proposed back-barrier lagoon system uses an offshore reef to dissipate wave energy. The Navy evaluated a hybrid stabilization option using an offshore reef but concluded that it was not the most viable option because of its uncertain effectiveness and its significant implementation challenges. However, as stated in Section 3.3.2.1.7 of the Draft Final FS Report: "<i>The Navy acknowledges the increased ecological function that the offshore reef option would provide relative to the other two options, and that such enhancements may be important to satisfy the ecological goals established by SFRA as part of their redevelopment project (SFRA, 2009). The Navy will continue to work closely with SFRA and other stakeholders to align the remedial alternatives for Parcel E with SFRA's redevelopment project to the maximum extent practical.</i>"</p> <p>In addition, Section 4.2.2.3 of the Draft Final FS Report states that the conceptual design may be refined in the RD based on additional site information or stakeholder input, but it must continue to satisfy the RAOs (identified in Section 3.1.2 of the FS Report) and provide equivalent (or improved) performance relative to effectiveness, implementability, and cost. The Navy believes that this discussion adequately acknowledges the CCSF's proposed redevelopment of the Parcel E shoreline.</p>

Table 6. Responses to Comments from Golden Gate Audubon Society and Sierra Club on the Draft Final Parcel E Feasibility Study (FS) Report, Hunters Point Shipyard (HPS), July 2011

Comment #	Page #	Section	Comment	Response
Comments provided by the Sierra Club (Arthur Feinstein) and Golden Gate Audubon Society (Mike Lynes), dated November 30, 2011 <i>(continued)</i>				
General Comments				
8	--	--	The proposal to mitigate wetland losses with the Shaw wetlands is inadequate. According to Arc Ecology's analysis, the Shaw wetland site will not endure the local wave energy environment. It is our goal to ensure that viable wetlands are created as mitigation for the project and that they will endure local conditions in the longer term in order to preserve their benefits for the community and wildlife. The proposed backbarrier lagoon will accomplish this goal and thanks to the Settlement Agreement, funds for its construction have already been provided.	The Navy does not agree with the reviewer's assertion that the proposed wetlands mitigation for Parcel E-2 is not adequate. Over the past 5 years, the Navy has worked collaboratively with the BCT, CCSF, and other project stakeholders to develop a mitigation approach that addresses the unavoidable wetlands loss at Parcels B, E, and E-2. The results of this effort were published in the Final WMMP (Shaw, 2009b) and summarized in the Final RI/FS Report for Parcel E-2 (ERRG and Shaw, 2011). Draft and draft final versions of both documents were reviewed by the BCT, CCSF, and other project stakeholders, including Arc Ecology. The Navy responded to all comments received on the draft and draft final versions of both documents and incorporated input from various reviewers, as appropriate, into the final versions. The Navy believes that this effort is adequate to support the Navy's evaluation of remedial alternatives for Parcels E and E-2. The wetlands design will be refined, as appropriate, during the RD for Parcel E-2; however, the Navy does not agree with the Arc Ecology's assertion that the wave climate offshore of the proposed tidal marsh requires a wave barrier and believes that the current conceptual design will be effective in the long-term.

ACRONYMS AND ABBREVIATIONS

§	section
ARARs	applicable or relevant and appropriate requirements
ARIC	area requiring institutional controls
BRAC	Base Realignment and Closure
BCT	BRAC Cleanup Team
bgs	below ground surface
CCR	California Code of Regulations
CCSF	City and County of San Francisco
CDPH	California Department of Public Health
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQA	California Environmental Quality Act
COCs	chemicals of concern
DFG-OSPR	California Department of Fish and Game, Office of Spill Prevention and Response
DoD	U.S. Department of Defense
DTSC	California Department of Toxic Substances Control
EIR	environmental impact report
EPA	U.S. Environmental Protection Agency
FS	Feasibility Study
HHRA	human health risk assessment
HPS	Hunters Point Shipyard
HRA	Historical Radiological Assessment
IR	Installation Restoration
LOAEL	lowest observed adverse effect level
MPPEH	material potentially presenting an explosive hazard
NAPL	nonaqueous-phase liquid
Navy	Department of the Navy
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NOAEL	no observed adverse effect level
O&M	operation and maintenance
OMB	Office of Management and Budget
PCB	polychlorinated biphenyl
RAOs	remedial action objectives
RBC	risk-based concentration
RD	remedial design
RI	Remedial Investigation
ROD	Record of Decision
RROs	radiological remedial objectives
RSRS	Radiological Survey and Remedial Services, LLC

ACRONYMS AND ABBREVIATIONS *(continued)*

Shaw	Shaw Environmental, Inc.
SFRA	San Francisco Redevelopment Agency
TPH	total petroleum hydrocarbons
TtECI	Tetra Tech EC, Inc.
TtEMI	Tetra Tech EM Inc.
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compound
Water Board	California Regional Water Quality Control Board, San Francisco Bay Region
WMMP	wetlands mitigation and monitoring plan

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Attachment 1. Supplemental Evaluation of Potential ARARs Identified by DFG-OSPR

Attachment 1. Potential State Location-Specific ARARs (Supplemental Evaluation)

Feasibility Study Report for Parcel E, Hunters Point Shipyard

Location	Requirement	Prerequisite	Citation ^a	Preliminary ARAR Determination	Comments
California Department of Fish and Game (Cal. Fish & Game Code) ^b					
Bird nest or eggs	It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.	Bird nests or eggs on site.	Cal. Fish & Game Code § 3503 (Added by Statutes 1985, c. 1334, § 6)	Not an ARAR	Cal. Fish & Game Code § 3503 is not applicable because the United States of America has not waived sovereign immunity in the FESA for this State of California requirement. Pursuant to 40 CFR § 300.400(g)(2) of the NCP, the Navy has determined that this requirement is not “relevant and appropriate” because it does not address problems or situations sufficiently similar to the circumstances of the release or CERCLA response action and is not well suited to the site based upon the pertinent provisions of §§ 300.400(g)(2)(i) and (iv) of the NCP ¹ . CERCLA response actions are intended to respond to releases of hazardous substances in order to protect human health and the environment, including environmental receptors. In contrast, the purpose of this state requirement is to regulate and set forth conditions for the “taking” of the species addressed by those requirements. Moreover, that purpose is achieved through the regulation of intentional conduct directed at the species as opposed to incidental “take” (or possession, etc.) of species in the course of lawful activity such as CERCLA remedial action. The focus on intentional conduct is not well-suited to the circumstances at CERCLA sites. In summary, the <u>purposes</u> of this state requirement and the <u>actions that it regulates</u> do not include responding to releases of hazardous substances.

¹ Note that there is no requirement in Subsection 300.400(g)(2) of the NCP that the Navy make specific findings for each of the eight factors listed in Subsection 300.400(g)(2)(i) through (viii) for each potential state ARAR. The factors are to be examined “where pertinent” with pertinence “depending, in part, on whether a requirement addresses a chemical, location, or action.”

Attachment 1. Potential State Location-Specific ARARs (Supplemental Evaluation) (continued)

Feasibility Study Report for Parcel E, Hunters Point Shipyard

Location	Requirement	Prerequisite	Citation ^a	Preliminary ARAR Determination	Comments
California Department of Fish and Game (Cal. Fish & Game Code) ^b (continued)					
Bird nest or eggs (continued)	(see above)	(see above)	(see above)	(see above)	Therefore, it is not "relevant and appropriate" based upon the pertinent provisions of Subsections 300.400(g)(2)(i) and (iv) of the NCP. Although this requirement is not an ARAR, the Navy will coordinate with other natural resource trustees throughout the CERCLA remedial action process. The Navy's ERA process takes into account representative receptors for the site, and final remediation/cleanup goals will ensure that they are adequately protected from exposure to CERCLA hazardous substances that present unacceptable risk. In addition, any species that are present and are federal and/or state endangered, threatened, or fully protected species will be addressed by ARARs related to those designations. ²
Fully protected birds	Fully protected birds or parts thereof may not be taken or possessed at any time. The following are fully protected birds: American Peregrine Falcon, California Brown Pelican, California Black Rail, California Clapper Rail, California Condor, California Least Tern, Golden Eagle, Greater Sandhill Crane, Light-footed Clapper Rail, Southern Bald Eagle, Trumpeter Swan, White-tailed Kite, and Yuma Clapper Rail.	A fully protected species must be potentially affected.	Cal. Fish & Game Code § 3511	Relevant and appropriate	Cal. Fish & Game Code § 3511 is not applicable because the United States of America has not waived sovereign immunity in the FESA for this State of California requirement. The American peregrine falcon is present at the site, and is protected under Cal. Fish & Game Code § 3511. The substantive provisions of Cal. Fish & Game Code § 3511 meet the pertinent NCP criteria under 40 CFR § 300.400(g)(2)(viii) and are "relevant and appropriate" because the American peregrine falcon is present at the site and protection of this vulnerable resource allows it to be "used" in the sense that it continues to provide its unique value to the

² For a more detailed explanation of the positions set forth above, see letter dated June 16, 2009, from Navy counsels Rex Callaway and Michael Waters to CDFG counsel Wendy Johnson; letter dated December 3, 2009, from Ms. Johnson to Mr. Callaway and Mr. Waters; and letter dated April 29, 2010, from Mr. Callaway and Mr. Waters to Ms. Johnson.

Attachment 1. Potential State Location-Specific ARARs (Supplemental Evaluation) (continued)

Feasibility Study Report for Parcel E, Hunters Point Shipyard

Location	Requirement	Prerequisite	Citation ^a	Preliminary ARAR Determination	Comments
California Department of Fish and Game (Cal. Fish & Game Code) ^b (continued)					
Fully protected birds (continued)	(see above)	(see above)	(see above)	(see above)	<p>State of California.</p> <p>The Navy accepts Cal. Fish & Game Code § 3511 as a state ARAR subject to the following conditions. The State of California, through DFG-OSPR, concurs that this statute addresses prohibited conduct but does not provide for or prescribe affirmative measures to avoid a “taking.” Notwithstanding the absence of specific affirmative measures in the statute, the Navy will implement reasonable measures to ensure adequate protection of ecological receptors during response action construction following issuance of a CERCLA decision document pursuant to the Navy’s obligations under CERCLA to select removal or remedial actions that are protective of human health and the environment (see Section 121[b][1] of CERCLA). The Navy will coordinate with the State, through DFG-OSPR, prior to implementation of such reasonable measures. The Navy understands that the State of California reserves the right to conduct periodic site visits during removal or remedial activities to confirm implementation of avoidance measures.</p> <p>Substantive provisions of this requirement are potentially relevant and appropriate. The American peregrine falcon is present at the site, and the White-tailed kite is potentially present at the site. These species are protected under Cal. Fish & Game Code § 3511.</p>

Attachment 1. Potential State Location-Specific ARARs (Supplemental Evaluation) (continued)

Feasibility Study Report for Parcel E, Hunters Point Shipyard

Location	Requirement	Prerequisite	Citation ^a	Preliminary ARAR Determination	Comments
California Department of Fish and Game (Cal. Fish & Game Code) ^b (continued)					
Area used by fully protected mammals	Fully protected mammals may not be taken at any time. The following are fully protected mammals: Morro Bay kangaroo rat, Bighorn sheep (except Nelson bighorn sheep), Northern elephant seal, Guadalupe fur seal, Ring-tailed cat, Pacific right whale, Salt marsh harvest mouse, Southern sea otter, and Wolverine.	A fully protected species must be potentially affected.	Cal. Fish & Game Code § 4700	Not an ARAR	This requirement is not an ARAR because fully protected mammal species are not present at the site.
Fully protected reptiles or amphibians	Fully protected reptiles and amphibians or parts thereof may not be taken or possessed at any time. The following are fully protected reptiles or amphibians: Blunt-nosed leopard lizard, San Francisco garter snake, Santa Cruz long-toed salamander, Limestone salamander, and Black toad.	A fully protected species must be potentially affected.	Cal. Fish & Game Code § 5050	Not an ARAR	This requirement is not an ARAR because fully protected reptile or amphibian species are not present at the site.
Waters of the state	Prohibits the passage of enumerated substances or materials into waters of the state deleterious to fish, plant life, or birds.	Not authorized under Cal. Water Code § 13263 or a waiver issued pursuant to subdivision (a) of § 13269 of the Cal. Water Code.	Cal. Fish & Game Code § 5650(a), (b), and (c)	Relevant and appropriate	Cal. Fish & Game Code § 5650 is not applicable because the United States of America has not waived sovereign immunity for this state of California requirement. While no direct deposition of material is expected to enter into or affect waters of the states, the substantive portions of this standard will be complied with as an ARAR. Response actions along the Parcel E shoreline will be conducted in such a way as to ensure that materials dug up will not be released into the water column.

Attachment 1. Potential State Location-Specific ARARs (Supplemental Evaluation) (continued)

Feasibility Study Report for Parcel E, Hunters Point Shipyard

Location	Requirement	Prerequisite	Citation ^a	Preliminary ARAR Determination	Comments
California Department of Fish and Game (Cal. Fish & Game Code) ^b (continued)					
Area with fisher, marten, river otter, desert kit fox, and red fox	Fisher, marten, river otter, desert kit fox, and red fox may not be taken at any time.	A fisher, marten, river otter, desert kit fox, or red fox must be potentially harmed.	Cal. Code Regs. tit. 14, § 460	Not an ARAR	Cal. Fish & Game Code § 3503 is not applicable because the United States of America has not waived sovereign immunity in the FESA for this State of California requirement. Pursuant to 40 CFR § 300.400(g)(2) of the NCP, the Navy has determined that this requirement is not “relevant and appropriate” because it does not address problems or situations sufficiently similar to the circumstances of the release or CERCLA response action and is not well suited to the site based upon the pertinent provisions of §§ 300.400(g)(2)(i) and (iv) of the NCP ³ . CERCLA response actions are intended to respond to releases of hazardous substances in order to protect human health and the environment, including environmental receptors. In contrast, the purpose of this state requirement is to regulate and set forth conditions for the “taking” of the species addressed by those requirements. Moreover, that purpose is achieved through the regulation of intentional conduct directed at the species as opposed to incidental “take” (or possession, etc.) of species in the course of lawful activity such as CERCLA remedial action. The focus on intentional conduct is not well-suited to the circumstances at CERCLA sites. In summary, the <u>purposes</u> of this state requirement and the <u>actions that it regulates</u> do not include responding to releases of hazardous substances.

³ Note that there is no requirement in Subsection 300.400(g)(2) of the NCP that the Navy make specific findings for each of the eight factors listed in Subsection 300.400(g)(2)(i) through (viii) for each potential state ARAR. The factors are to be examined “where pertinent” with pertinence “depending, in part, on whether a requirement addresses a chemical, location, or action.”

Attachment 1. Potential State Location-Specific ARARs (Supplemental Evaluation) (continued)

Feasibility Study Report for Parcel E, Hunters Point Shipyard

Location	Requirement	Prerequisite	Citation ^a	Preliminary ARAR Determination	Comments
California Department of Fish and Game (Cal. Fish & Game Code) ^b (continued)					
Area with fisher, marten, river otter, desert kit fox, and red fox (continued)	(see above)	(see above)	(see above)	(see above)	Therefore, it is not "relevant and appropriate" based upon the pertinent provisions of Subsections 300.400(g)(2)(i) and (iv) of the NCP. Although this requirement is not an ARAR, the Navy will coordinate with other natural resource trustees throughout the CERCLA remedial action process. The Navy's ERA process takes into account representative receptors for the site, and final remediation/cleanup goals will ensure that they are adequately protected from exposure to CERCLA hazardous substances that present unacceptable risk. In addition, any species that are present and are federal and/or state endangered, threatened, or fully protected species will be addressed by ARARs related to those designations. ⁴

⁴ For a more detailed explanation of the positions set forth above, see letter dated June 16, 2009, from Navy counsels Rex Callaway and Michael Waters to CDFG counsel Wendy Johnson; letter dated December 3, 2009, from Ms. Johnson to Mr. Callaway and Mr. Waters; and letter dated April 29, 2010, from Mr. Callaway and Mr. Waters to Ms. Johnson.

Attachment 1. Potential State Location-Specific ARARs (Supplemental Evaluation) *(continued)*

Feasibility Study Report for Parcel E, Hunters Point Shipyard

Notes:

- a Only the substantive provisions of the requirements cited in this table are potential ARARs.
 - b Statutes and policies and their citations are provided as headings to identify general categories of potential ARARs for the convenience of the reader; listing the statutes and policies does not indicate that the Navy accepts the entire statute or policy as a potential ARAR; specific potential ARARs follow each general heading; only substantive requirements of the specific citations are considered potential ARARs.
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- § Section
 - §§ Sections
 - ARAR Applicable or relevant and appropriate requirement
 - Bay Plan San Francisco Bay Plan
 - Cal. California
 - CERCLA Comprehensive Environmental Response, Compensation, and Liability Act
 - CESA California Endangered Species Act
 - CFR Code of Federal Regulations
 - DFG California Department of Fish and Game
 - ERA ecological risk assessment
 - FESA Federal Endangered Species Act
 - Navy Department of the Navy
 - NCP National Oil and Hazardous Substances Pollution Contingency Plan
 - OSPR Office of Spill Prevention and Response
 - Regs. Regulations
 - TBC to be considered
 - tit. Title